

## SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Sen tee 10/073, 223 Examiner #: 76060 Date: 7-22-04  
Art Unit: 1732 Phone Number 302-1333 Serial Number: 10/073, 223  
Mail Box and Bldg/Room Location: 9D64 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need. A

\*\*\*\*\*

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Polymer, Resist Composition & Patterning ProcessInventors (please provide full names): Nishi, Tsunehiro; Nakashima, Mutsuo;  
Tachibana, Seiichiro; Funatsu, KenjiEarliest Priority Filing Date: 2-13-02

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please search for a polymer of claim #6

(It only needs to have those two repeat units,  
which I circled)

\*\*\*\*\*

## STAFF USE ONLY

|  | Type of Search         | Vendors and cost where applicable |
|--|------------------------|-----------------------------------|
| Searcher: <u>R. Fuller</u>             | NA Sequence (#)        | STN <u>✓</u>                      |
| Searcher Phone #: _____                | AA Sequence (#)        | Dialog _____                      |
| Searcher Location: _____               | Structure (#) <u>6</u> | Questel/Orbit _____               |
| Date Searcher Picked Up: _____         | Bibliographic          | Dr.Link _____                     |
| Date Completed: <u>7/23/04</u>         | Litigation             | Lexis/Nexis _____                 |
| Searcher Prep & Review Time: <u>40</u> | Fulltext               | Sequence Systems _____            |
| Clerical Prep Time: _____              | Patent Family          | WWW/Internet _____                |
| Online Time: <u>50</u>                 | Other                  | Other (specify) _____             |

=> FILE REG

FILE 'REGISTRY' ENTERED AT 17:41:36 ON 22 JUL 2004  
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Property values tagged with IC are from the ZIC/VINITI data file  
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STRUCTURE FILE UPDATES: 21 JUL 2004 HIGHEST RN 714195-59-2  
DICTIONARY FILE UPDATES: 21 JUL 2004 HIGHEST RN 714195-59-2

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

Please note that search-term pricing does apply when  
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Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more  
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to the file summary sheet on the web at:  
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> FILE HCAPLUS

FILE 'HCAPLUS' ENTERED AT 17:41:41 ON 22 JUL 2004  
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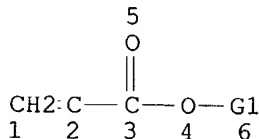
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FILE COVERS 1907 - 22 Jul 2004 VOL 141 ISS 4  
FILE LAST UPDATED: 21 Jul 2004 (20040721/ED)

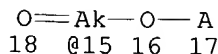
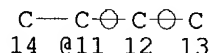
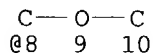
This file contains CAS Registry Numbers for easy and accurate  
substance identification.

=> D QUE

L74 SCR 2043  
L76 STR



Cy @7



VAR G1=7/8/11/15

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NSPEC IS R AT 12  
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CONNECT IS E1 RC AT 18  
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GGCAT IS SAT AT 7  
DEFAULT ECLEVEL IS LIMITED

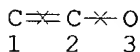
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NUMBER OF NODES IS 18

STEREO ATTRIBUTES: NONE

L79 19699 SEA FILE=REGISTRY SSS FUL L76 AND L74

L80 STR



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NSPEC IS RC AT 3  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

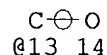
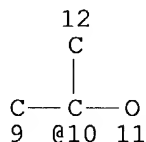
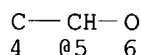
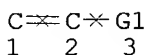
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STEREO ATTRIBUTES: NONE

L82 911 SEA FILE=REGISTRY SUB=L79 SSS FUL L80

L86 STR



VAR G1=5/7/10/13

NODE ATTRIBUTES:

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KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

*19,699 polymers  
from the  
query*

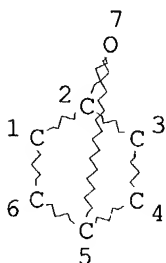
*Subset search with this query  
covering claim 6  
per claim this can also be in a  
ring  
911 polymers*

*removing previous  
answer  
sets  
already  
pointed in  
other 2  
searches*

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 NSPEC IS RC AT 4  
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 NSPEC IS RC AT 12  
 NSPEC IS R AT 13  
 NSPEC IS R AT 14  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

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STEREO ATTRIBUTES: NONE  
 L90 1871 SEA FILE=REGISTRY SUB=L79 SSS FUL L86  
 L91 STR



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 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
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STEREO ATTRIBUTES: NONE  
 L93 92 SEA FILE=REGISTRY SUB=L79 SSS FUL L91  
 L94 32 SEA FILE=HCAPLUS ABB=ON L93  
 L95 28 SEA FILE=HCAPLUS ABB=ON L94(L) (PREP OR SPN OR IMF)/RL  
 L96 27 SEA FILE=HCAPLUS ABB=ON L95(L) ?RESIST?  
 L97 793 SEA FILE=HCAPLUS ABB=ON L90  
 L98 452 SEA FILE=HCAPLUS ABB=ON L97(L) ?RESIST?  
 L99 365 SEA FILE=HCAPLUS ABB=ON L98(L) (PREP OR SPN OR IMF)/RL  
 L100 131 SEA FILE=HCAPLUS ABB=ON L99 AND PATTERN?  
 L101 119 SEA FILE=HCAPLUS ABB=ON L100 AND PHOTORESISTS/IT  
 L102 20 SEA FILE=HCAPLUS ABB=ON L101 AND (?VINYL? OR ?ALLYL?)  
 L105 35 SEA FILE=HCAPLUS ABB=ON L101 AND ETHER?  
 L106 44 SEA FILE=HCAPLUS ABB=ON L102 OR L105  
 L107 526 SEA FILE=HCAPLUS ABB=ON L82  
 L108 67 SEA FILE=HCAPLUS ABB=ON L107(L) PHOTORESIST?(L) (PREP OR IMF OR SPN)/RL  
 L109 56 SEA FILE=HCAPLUS ABB=ON (L108 OR L106 OR L96) NOT (L106 OR L96)

=> D L109 BIB ABS HITSTR 1-56

L109 ANSWER 1 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN

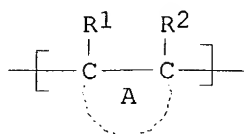
KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

*56 CA references with utility*

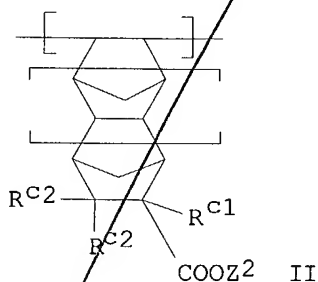


AN 2004:493111 HCAPLUS  
 DN 141:62092  
 TI Positive-working photoresist resin composition  
 IN Sasaki, Tomoya; Mizutani, Kazuyoshi; Kanna, Shinichi  
 PA Fuji Photo Film Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 79 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | JP 2004170871  | A2   | 20040617 | JP 2002-339432  | 20021122 |
| PRAI | JP 2002-339432 |      | 20021122 |                 |          |
| GI   |                |      |          |                 |          |



I



II

AB The title composition contains acid-sensitive alkali-solubilizable resins and a photoacid-generator, wherein the resin contains repeating unit I (RI-1, RI-2 = H, F, Cl, Br, etc.; A = alicyclic ring residue) and [-C(RII-1)(RII-2)-C(RII-3)O-L1-Z1] (RII-1-II-3 = H, F, Cl, Br, etc.; L1 = 2-valent connecting group; Z1 = acid-sensitive group) or II (Z2 = acid-sensitive group; R1 = F-substituted alkyl; R2 = H, halo, cyano, alkyl; k = 0, 1). The composition provides photoresist of good transparency towards 157 nm beam and good-dry etching resistance and shows high sensitivity and high dissoln. contrast.

IT 705288-02-4P 705297-61-6P

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (resin in pos.-working photoresist resin composition)

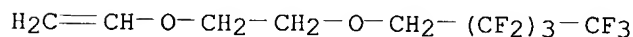
RN 705288-02-4 HCAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester, polymer with 5-[2-(ethenyloxy)ethoxy]-1,1,1,2,2,3,3,4,4-nonafluoropentane and octafluorocyclopentene (9CI) (CA INDEX NAME)

CM 1

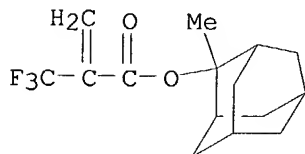
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CMF C9 H9 F9 O2



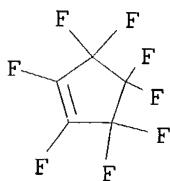
CM 2

CRN 188739-86-8  
CMF C15 H19 F3 O2



CM 3

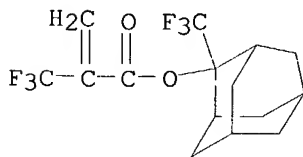
CRN 559-40-0  
CMF C5 F8



RN 705297-61-6 HCAPLUS  
CN 1,4:5,8-Dimethanonaphthalene-2-carboxylic acid, 6(or 7)-(ethenyloxy)decahydro-2-(trifluoromethyl)-, 1,1-dimethylethyl ester, polymer with octafluorocyclopentene and 2-(trifluoromethyl)tricyclo[3.3.1.13,7]dec-2-yl 2-(trifluoromethyl)-2-propenoate (9CI) (CA INDEX NAME)

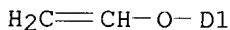
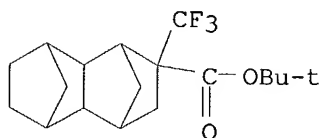
CM 1

CRN 705297-60-5  
CMF C15 H16 F6 O2



CM 2

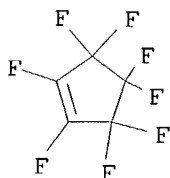
CRN 679804-92-3  
CMF C20 H27 F3 O3  
CCI IDS



CM 3

CRN 559-40-0

CMF C5 F8



L109 ANSWER 2 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2004:291622 HCAPLUS

DN 140:329533

TI Positive-working photoresist composition containing specific resin

IN Sasaki, Tomoya; Mizutani, Kazuyoshi; Kanna, Shinichi

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 83 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | JP 2004109834  | A2   | 20040408 | JP 2002-275241  | 20020920 |
| PRAI | JP 2002-275241 |      | 20020920 |                 |          |

AB The title composition contains a resin increasing the solubility in an alkali solution

by an acid and an actinic ray- or radiation sensitive acid-generator, wherein the resin has repeating unit [-C(R1)(R2)-C(R3)(-O-L1-[C(C(R21R22R23))(C(R24R25R26))]n-L2-C(OZa)(C(R27R28R29))(C(R30R31R32)))] (r1-3 = H, halo, cyano, alkyl; R21-32 = H, F, alkyl; L1-2 = single bond, 2-valent connecting group; n = 0, 1) and repeating unit containing the structure -[C(R4)(R5)]m-Z1-(X)p (R4-5 = alkyl; Z1 = (p+1)-valent alicyclic hydrocarbon; X = F, Cl, OH< etc.; m = 0, 1; p = integer 1-4). Composition is suitable for exposure beam of ≤160 nm and show good characteristics on development, image formation, dry etching resistance, etc.

IT 677354-71-1P 677354-72-2P 677354-73-3P  
 677354-76-6P 677354-81-3P 677354-85-7P  
 677355-61-2P 677355-64-5P

RL: **SPN (Synthetic preparation)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)  
(resin in pos.-working **photoresist** composition)

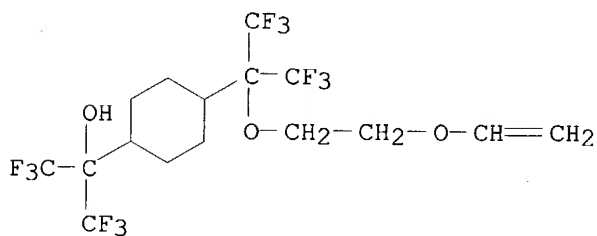
RN 677354-71-1 HCAPLUS

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CRN 654076-29-6

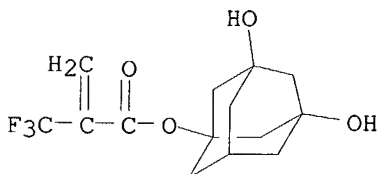
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CRN 521913-16-6

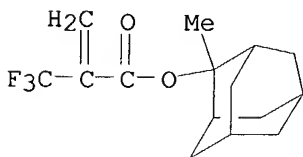
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CM 3

CRN 188739-86-8

CMF C15 H19 F3 O2



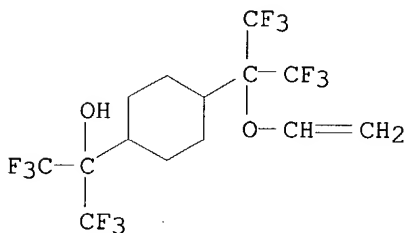
RN 677354-72-2 HCAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 3,5-dihydroxytricyclo[3.3.1.1<sup>3,7</sup>]dec-1-yl ester, polymer with 4-[1-(ethenyloxy)-2,2,2-trifluoro-1-(trifluoromethyl)ethyl]- $\alpha,\alpha$ -bis(trifluoromethyl)cyclohexanemethanol and 2-ethyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl 2-(trifluoromethyl)-2-propenoate (9CI) (CA INDEX NAME)

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CRN 654076-31-0

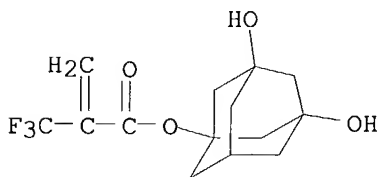
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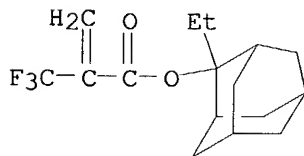
CMF C14 H17 F3 O4



CM 3

CRN 444168-44-9

CMF C16 H21 F3 O2



RN 677354-73-3 HCAPLUS

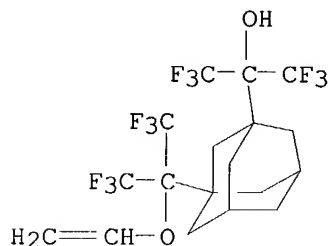
CN 2-Propenoic acid, 2-(trifluoromethyl)-, 3,5-dihydroxytricyclo[3.3.1.1<sup>3,7</sup>]dec-1-yl ester, polymer with 3-[1-(ethenyloxy)-2,2,2-trifluoro-1-(trifluoromethyl)ethyl]- $\alpha,\alpha$ -bis(trifluoromethyl)tricyclo[3.3.1.1<sup>3,7</sup>]decane-1-methanol and 2-methylbicyclo[2.2.1]hept-2-yl

2-(trifluoromethyl)-2-propenoate (9CI) (CA INDEX NAME)

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CRN 676515-92-7

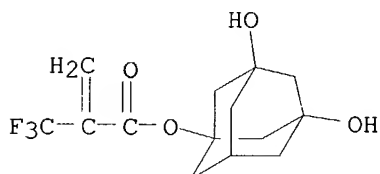
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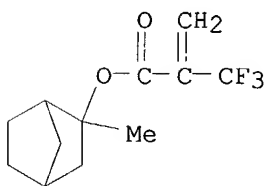
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CM 3

CRN 430437-41-5

CMF C12 H15 F3 O2

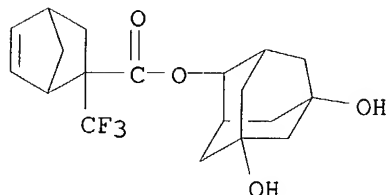


RN 677354-76-6 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 2-(trifluoromethyl)-, 5,7-dihydroxytricyclo[3.3.1.1.3]dec-2-yl ester, polymer with 6-[1-[2-(ethenyloxy)ethoxy]-2,2,2-trifluoro-1-(trifluoromethyl)ethyl]- $\alpha,\alpha$ -bis(trifluoromethyl)bicyclo[2.2.1]heptane-2-methanol and 2-methyltricyclo[3.3.1.1.3]dec-2-yl 2-(trifluoromethyl)-2-propenoate (9CI) (CA INDEX NAME)

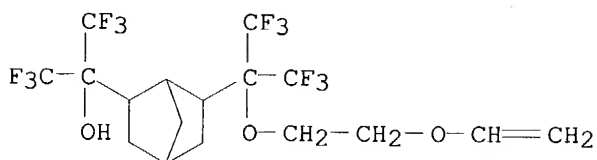
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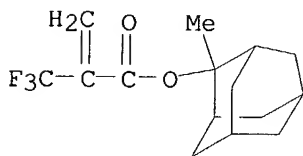
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CM 3

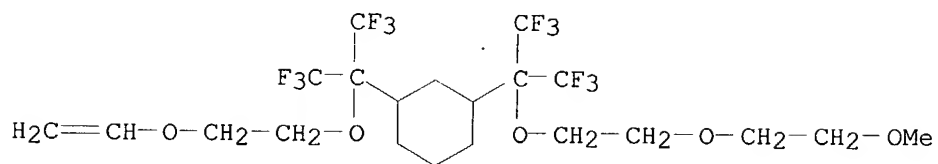
CRN 188739-86-8  
CMF C15 H19 F3 O2



RN 677354-81-3 HCAPLUS  
CN 2-Propenoic acid, 2-(trifluoromethyl)-, 3,5-dihydroxytricyclo[3.3.1.1<sup>3,7</sup>]dec-1-yl ester, polymer with 3-[1-[2-(ethenyloxy)ethoxy]-2,2,2-trifluoro-1-(trifluoromethyl)ethyl]- $\alpha,\alpha$ -bis(trifluoromethyl)cyclohexanemethanol, 1-[1-[2-(ethenyloxy)ethoxy]-2,2,2-trifluoro-1-(trifluoromethyl)ethyl]-3-[2,2,2-trifluoro-1-[2-(2-methoxyethoxy)ethoxy]-1-(trifluoromethyl)ethyl]cyclohexane and 1-methyl-1-(4-methylcyclohexyl)ethyl 2-(trifluoromethyl)-2-propenoate (9CI) (CA INDEX NAME)

CM 1

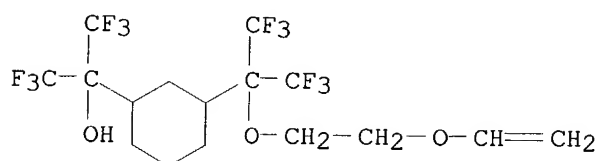
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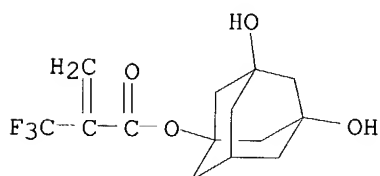
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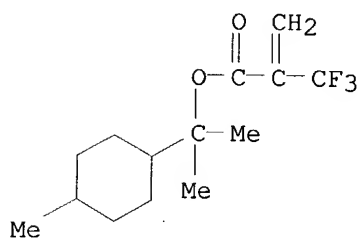
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CM 4

CRN 430437-43-7

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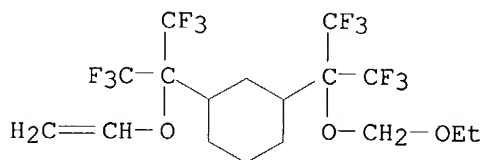




RN 677354-85-7 HCAPLUS  
 CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester, polymer with N-(3,5-dihydroxytricyclo[3.3.1.1<sup>3,7</sup>]dec-1-yl)-2-(trifluoromethyl)-2-propenamide, 3-[1-(ethenyloxy)-2,2,2-trifluoro-1-(trifluoromethyl)ethyl]- $\alpha,\alpha$ -bis(trifluoromethyl)cyclohexanemethanol and 1-[1-(ethenyloxy)-2,2,2-trifluoro-1-(trifluoromethyl)ethyl]-3-[1-(ethoxymethoxy)-2,2,2-trifluoro-1-(trifluoromethyl)ethyl]cyclohexane (9CI)  
 (CA INDEX NAME)

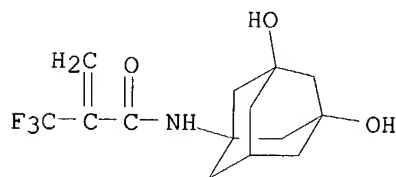
CM 1

CRN 677354-84-6  
 CMF C17 H20 F12 O3



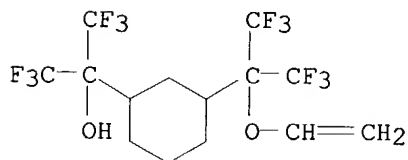
CM 2

CRN 677354-83-5  
 CMF C14 H18 F3 N O3



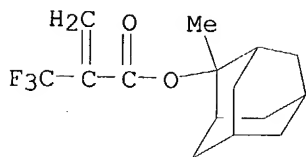
CM 3

CRN 677354-82-4  
 CMF C14 H14 F12 O2



CM 4

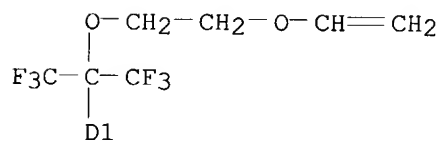
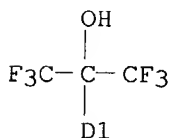
CRN 188739-86-8  
 CMF C15 H19 F3 O2



RN 677355-61-2 HCAPLUS  
 CN 2-Propenoic acid, 2-(trifluoromethyl)-, 3-hydroxytricyclo[3.3.1.1<sup>3,7</sup>]dec-1-yl ester, polymer with [1-[2-(ethenyloxy)ethoxy]-2,2,2-trifluoro-1-(trifluoromethyl)ethyl]- $\alpha,\alpha$ -bis(trifluoromethyl)cyclohexanemethanol and 1-methyl-1-tricyclo[3.3.1.1<sup>3,7</sup>]dec-1-ylethyl 2-(trifluoromethyl)-2-propenoate (9CI) (CA INDEX NAME)

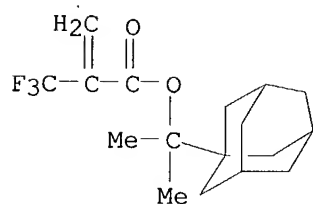
CM 1

CRN 677355-60-1  
 CMF C16 H18 F12 O3  
 CCI IDS



CM 2

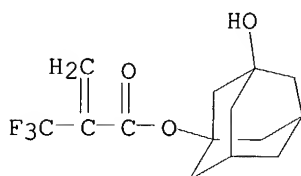
CRN 622378-55-6  
 CMF C17 H23 F3 O2



CM 3

CRN 521913-15-5

CMF C14 H17 F3 O3



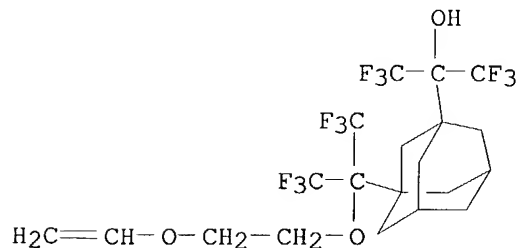
RN 677355-64-5 HCAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 5(or 6)-hydroxybicyclo[2.2.1]hept-2-yl ester, polymer with 3-[1-[2-(ethenyloxy)ethoxy]-2,2,2-trifluoro-1-(trifluoromethyl)ethyl]- $\alpha,\alpha$ -bis(trifluoromethyl)tricyclo[3.3.1.1.3,7]decane-1-methanol and 1-methylcyclohexyl 2-(trifluoromethyl)-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 677355-63-4

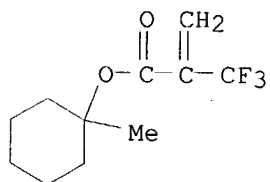
CMF C20 H22 F12 O3



CM 2

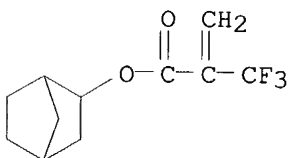
CRN 677355-62-3

CMF C11 H15 F3 O2



CM 3

CRN 651740-52-2  
CMF C11 H13 F3 O3  
CCI IDS



D1-OH

L109 ANSWER 3 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2004:250275 HCAPLUS

DN 140:278429

TI Positive photoresist compositions for F2 excimer lasers with good heat resistance and suppressed line edge roughness

IN Mizutani, Kazuyoshi

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 61 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | JP 2004093768  | A2   | 20040325 | JP 2002-253255  | 20020830 |
| PRAI | JP 2002-253255 |      | 20020830 |                 |          |

AB The compns. comprise (A) photoacid generators and (B) resins increasing their alkali solubility by acid decomposition, wherein the resins have crosslinked

repeating units  $\text{CRaRbRc}(\text{OLOCRc'CRa'Rb'})$  (Ra, Rb, Rc, Ra', Rb', Rc' = H, F, fluoroalkyl; L = linking group).

IT 674777-92-5P 674781-14-7P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(pos. photoresists for F2 excimer lasers with good heat resistance and suppressed line edge roughness)

RN 674777-92-5 HCAPLUS

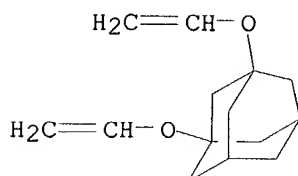
CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2-methyltricyclo[3.3.1.1.3,7]dec-2-

yl ester, polymer with 1,3-bis(ethenyloxy)tricyclo[3.3.1.1<sup>3,7</sup>]decane and  $\alpha,\alpha$ -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol (9CI) (CA INDEX NAME)

CM 1

CRN 406226-15-1

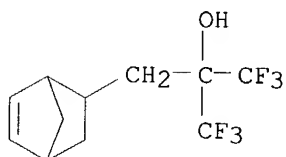
CMF C14 H20 O2



CM 2

CRN 196314-61-1

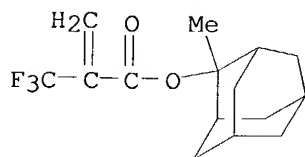
CMF C11 H12 F6 O



CM 3

CRN 188739-86-8

CMF C15 H19 F3 O2



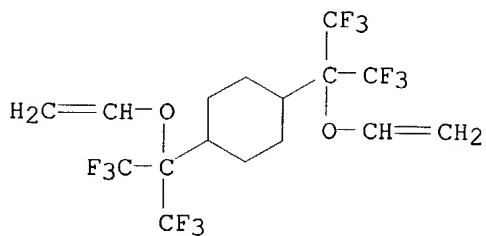
RN 674781-14-7 HCAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester, polymer with 1,4-bis[1-(ethenyloxy)-2,2,2-trifluoro-1-(trifluoromethyl)ethyl]cyclohexane and  $\alpha,\alpha$ -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol (9CI) (CA INDEX NAME)

CM 1

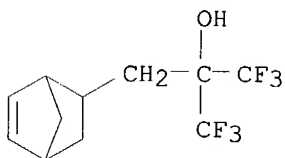
CRN 674781-13-6

CMF C16 H16 F12 O2



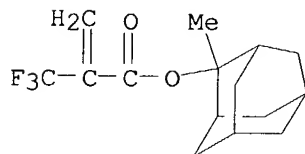
CM 2

CRN 196314-61-1  
CMF C11 H12 F6 O



CM 3

CRN 188739-86-8  
CMF C15 H19 F3 O2



L109 ANSWER 4 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2004:250257 HCAPLUS

DN 140:294777

TI Positive photoresist compositions for F2 excimer lasers with good heat resistance and suppressed line edge roughness

IN Mizutani, Kazuyoshi

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 61 pp.

CODEN: JKXXAF

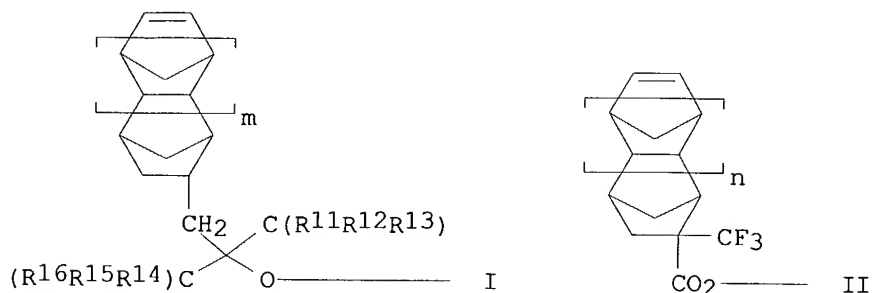
DT Patent

LA Japanese

FAN.CNT 1

| PATENT NO. | KIND | DATE  | APPLICATION NO. | DATE  |
|------------|------|-------|-----------------|-------|
| -----      | ---- | ----- | -----           | ----- |

PI JP 2004093690 A2 20040325 JP 2002-251870 20020829  
 PRAI JP 2002-251870 20020829  
 GI



AB The compns. comprise (A) photoacid generators and (B) resins increasing their alkali solubility by acid decomposition, wherein the resins have  $\geq 1$  repeating units derived from monomers having  $\geq 2$  residual groups selected from I (R<sub>11</sub>-16 = H, F, fluoroalkyl; R<sub>11</sub> = R<sub>12</sub> = R<sub>13</sub> = R<sub>14</sub> = R<sub>15</sub> = R<sub>16</sub>  $\neq$  H; m = 0, 1) and II (n = same as m).

IT 674777-92-5P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses).

(pos. photoresists for F2 excimer lasers with good heat resistance and suppressed line edge roughness)

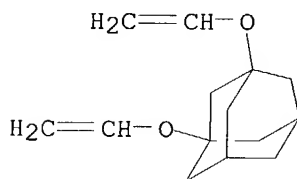
RN 674777-92-5 HCAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester, polymer with 1,3-bis(ethenyloxy)tricyclo[3.3.1.1<sup>3,7</sup>]decane and  $\alpha,\alpha$ -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol (9CI) (CA INDEX NAME)

CM 1

CRN 406226-15-1

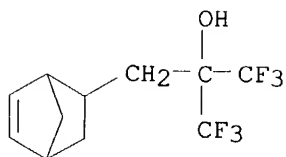
CMF C14 H20 O2



CM 2

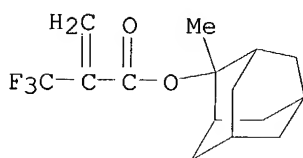
CRN 196314-61-1

CMF C11 H12 F6 O



CM 3

CRN 188739-86-8  
CMF C15 H19 F3 O2



L109 ANSWER 5 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2004:219229 HCAPLUS

DN 140:261410

TI Positive-working photoresist composition

IN Fujimori, Toru

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 116 pp.

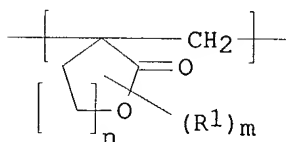
CODEN: JKXXAF

DT Patent

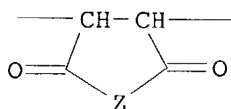
LA Japanese

FAN.CNT 1

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | JP 2004085900  | A2   | 20040318 | JP 2002-246979  | 20020827 |
| PRAI | JP 2002-246979 |      | 20020827 |                 |          |
| GI   |                |      |          |                 |          |



I



II

AB The title composition contains a compound having -OH groups or modified -OH groups, an alkali-solubilizable resin, and an acid generator, wherein the resin has repeating unit I (r1 = alkyl; m = 0-4 integer; n = 0-4 integer) or II (Z = O, NR3a; R3a = H, OH, alkyl, etc.) and [-CH(R1a)-CH(-OR2a)] (r1a = H, hydrocarbon; R2a = hydrocarbon). The composition provides good development properties and good pattern profile.



IT 564472-84-0P 564472-86-2P 564472-87-3P  
564472-92-0P 566162-13-8P 566162-15-0P  
566162-19-4P 566162-22-9P

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(resin; pos.-working photoresist composition)

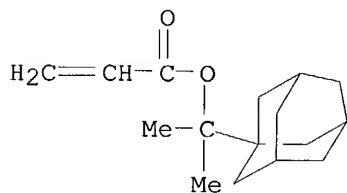
RN 564472-84-0 HCAPLUS

CN 2-Propenoic acid, 3,5-dihydroxytricyclo[3.3.1.1<sup>3,7</sup>]dec-1-yl ester, polymer with 2-(ethenyloxy)-2-methylpropane, 2,5-furandione and 1-methyl-1-tricyclo[3.3.1.1<sup>3,7</sup>]dec-1-ylethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 300833-10-7

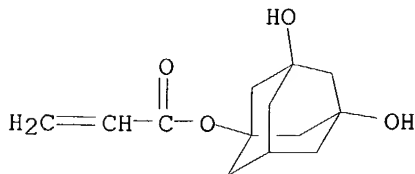
CMF C16 H24 O2



CM 2

CRN 216581-85-0

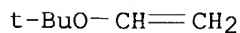
CMF C13 H18 O4



CM 3

CRN 926-02-3

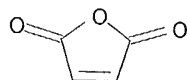
CMF C6 H12 O



CM 4

CRN 108-31-6

CMF C4 H2 O3

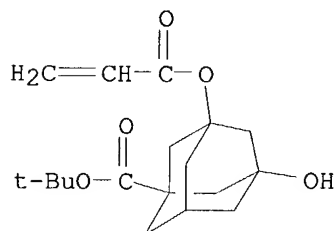


RN 564472-86-2 HCAPLUS  
 CN Tricyclo[3.3.1.1<sup>3,7</sup>]decane-1-carboxylic acid, 3-hydroxy-5-[(1-oxo-2-propenyl)oxy]-, 1,1-dimethylethyl ester, polymer with 3,4-dihydro-2H-pyran and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 251563-12-9

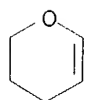
CMF C18 H26 O5



CM 2

CRN 110-87-2

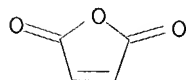
CMF C5 H8 O



CM 3

CRN 108-31-6

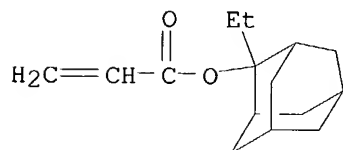
CMF C4 H2 O3



RN 564472-87-3 HCAPLUS  
 CN 2-Propenoic acid, 2-ethyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester, polymer with 1-(ethenyloxy)-2-methylpropane, 2,5-furandione and tetrahydro-5-oxo-3-furanyl 2-propenoate (9CI) (CA INDEX NAME)

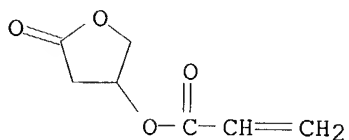
CM 1

CRN 303186-14-3  
CMF C15 H22 O2



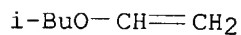
CM 2

CRN 130225-01-3  
CMF C7 H8 O4



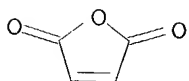
CM 3

CRN 109-53-5  
CMF C6 H12 O



CM 4

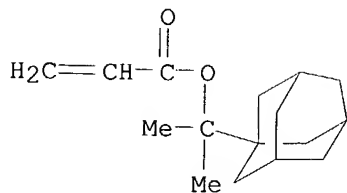
CRN 108-31-6  
CMF C4 H2 O3



RN 564472-92-0 HCAPLUS  
CN 2-Propenoic acid, hexahydro-2-oxo-3,5-methano-2H-cyclopenta[b]furan-6-yl ester, polymer with 3,4-dihydro-2H-pyran, 2,5-furandione and 1-methyl-1-tricyclo[3.3.1.1<sup>3,7</sup>]dec-1-ylethyl 2-propenoate (9CI) (CA INDEX NAME)

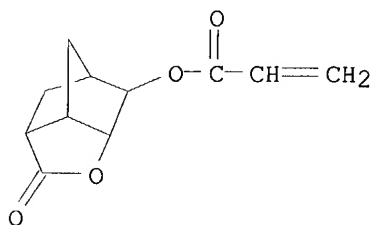
CM 1

CRN 300833-10-7  
CMF C16 H24 O2



CM 2

CRN 242129-35-7  
CMF C11 H12 O4



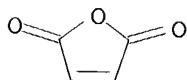
CM 3

CRN 110-87-2  
CMF C5 H8 O



CM 4

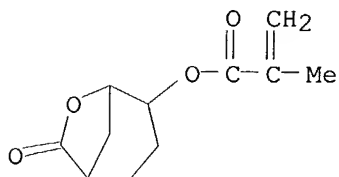
CRN 108-31-6  
CMF C4 H2 O3



RN 566162-13-8 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, 7-oxo-6-oxabicyclo[3.2.1]oct-4-yl ester,  
polymer with (ethenyloxy)cyclohexane, 2,5-furandione and  
2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl 2-propenoate (9CI) (CA INDEX NAME)

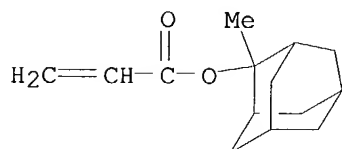
CM 1

CRN 335163-70-7  
CMF C11 H14 O4



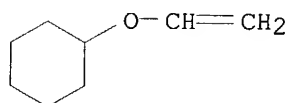
CM 2

CRN 249562-06-9  
CMF C14 H20 O2



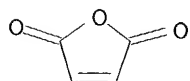
CM 3

CRN 2182-55-0  
CMF C8 H14 O



CM 4

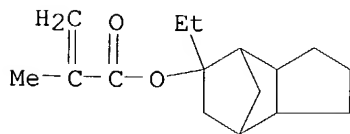
CRN 108-31-6  
CMF C4 H2 O3



RN 566162-15-0 HCAPLUS  
CN Tricyclo[3.3.1.1<sup>3,7</sup>]decane-1-carboxylic acid, 2-(ethenyloxy)ethyl ester,  
polymer with 5-ethyloctahydro-4,7-methano-1H-inden-5-yl  
2-methyl-2-propenoate, 2,5-furandione and 3-hydroxytricyclo[3.3.1.1<sup>3,7</sup>]dec-  
1-yl 2-propenoate (9CI) (CA INDEX NAME)

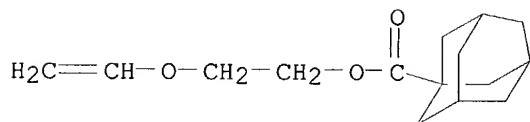
CM 1

CRN 348089-09-8  
CMF C16 H24 O2



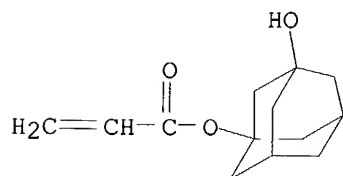
CM 2

CRN 219774-72-8  
CMF C15 H22 O3



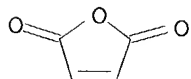
CM 3

CRN 216581-76-9  
CMF C13 H18 O3



CM 4

CRN 108-31-6  
CMF C4 H2 O3



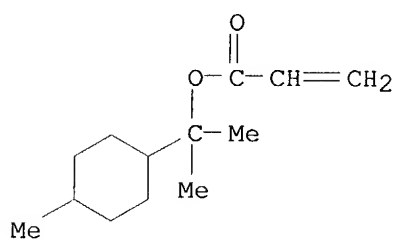
RN 566162-19-4 HCAPLUS  
CN Cyclohexanecarboxylic acid, 4-(1,1-dimethylethyl)-, 2-(ethenyloxy)ethyl ester, polymer with 2,5-furandione, 1-methyl-1-(4-methylcyclohexyl)ethyl

2-propenoate and 5-oxo-4-oxatricyclo[4.3.1.1<sup>3,8</sup>]undec-1-yl 2-propenoate  
(9CI) (CA INDEX NAME)

CM 1

CRN 342648-11-7

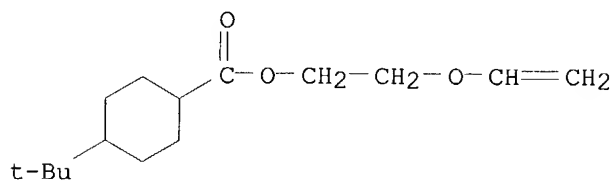
CMF C13 H22 O2



CM 2

CRN 312694-56-7

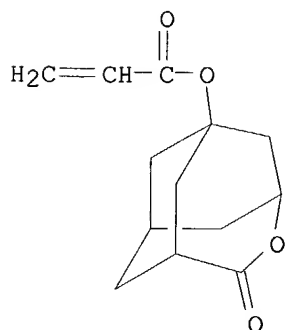
CMF C15 H26 O3



CM 3

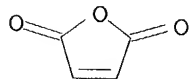
CRN 265999-35-7

CMF C13 H16 O4



CM 4

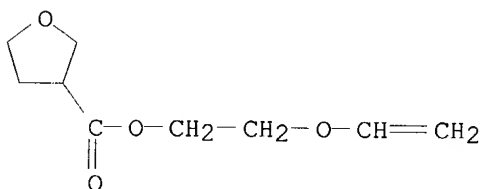
CRN 108-31-6  
CMF C4 H2 O3



RN 566162-22-9 HCAPLUS  
CN 3-Furancarboxylic acid, tetrahydro-, 2-(ethenyloxy)ethyl ester, polymer  
with 2,5-furandione, 3-hydroxy-5,7-dimethyltricyclo[3.3.1.1<sup>3,7</sup>]dec-1-yl  
2-propenoate and octahydro-5-methyl-4,7-methano-1H-inden-5-yl 2-propenoate  
(9CI) (CA INDEX NAME)

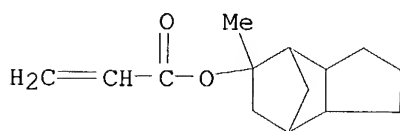
CM 1

CRN 566162-21-8  
CMF C9 H14 O4



CM 2

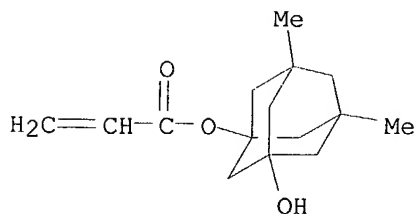
CRN 348089-10-1  
CMF C14 H20 O2



CM 3

CRN 216582-11-5  
CMF C15 H22 O3

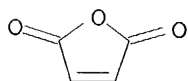




CM 4

CRN 108-31-6

CMF C4 H2 O3



L109 ANSWER 6 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2004:180145 HCAPLUS

DN 140:225800

TI Chemically amplified photoresists and method for pattern formation  
IN Harada, Yuji; Hatakeyama, Jun; Kawai, Yoshio; Sasako, Masaru; Endo, Masataka; Kishimura, Shinji; Maeda, Kazuhiko; Otani, Michitaka; Komoritani, Haruhiko

PA Shin-Etsu Chemical Industry Co., Ltd., Japan; Matsushita Electric Industrial Co., Ltd.; Central Glass Co., Ltd.

SO Jpn. Kokai Tokkyo Koho, 41 pp.

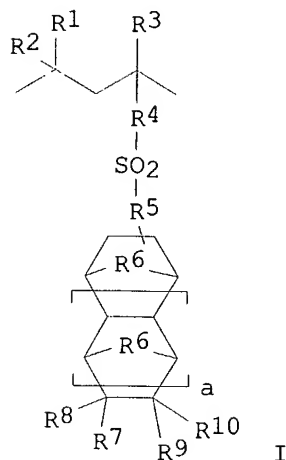
CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | JP 2004067972  | A2   | 20040304 | JP 2002-233045  | 20020809 |
| PRAI | JP 2002-233045 |      | 20020809 |                 |          |
| GI   |                |      |          |                 |          |



AB The photoresists contain polymers of Mw 1000-500,000 having repeating units I [R1-R3 = H, F, (fluorinated) C1-40 alkyl; R4 = single bond, (fluorinated) C1-40 alkylene; R5 = single bond, O, (fluorinated) C1-40 alkylene; R6 = methylene, O, S; R7-R10 = H, F, fluorinated C1-4 alkyl, R11OR12, R11CO2R12, OR12; R11 = single bond, (fluorinated) C1-40 alkylene; R12 = H, acid-labile group; a = 0, 1]. The photoresists are patternwise exposed to 100-180-nm or 1-30-nm high-energy beams (e.g., F2 laser beams, Ar2 laser beams, soft x rays) and developed (after post-exposure baking).

IT **666258-18-OP 666258-20-4P 666258-22-6P**  
 RL: **IMF (Industrial manufacture)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)  
 (chemical amplified pos. **photoresists** showing high sensitivity to high-energy beams)

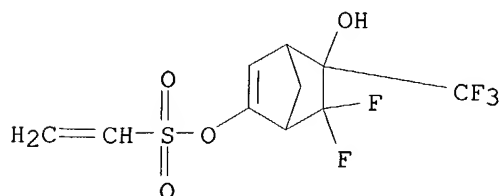
RN 666258-18-0 HCAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester, polymer with  $\alpha,\alpha$ -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol and 6,6-difluoro-5-hydroxy-5-(trifluoromethyl)bicyclo[2.2.1]hept-2-en-2-yl ethenesulfonate (9CI) (CA INDEX NAME)

CM 1

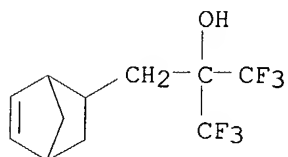
CRN 666258-15-7

CMF C10 H9 F5 O4 S



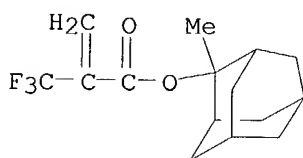
CM 2

CRN 196314-61-1  
CMF C11 H12 F6 O



CM 3

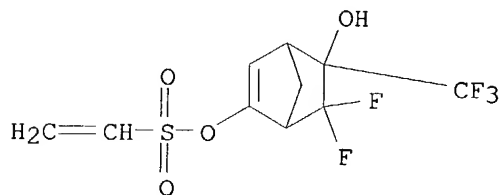
CRN 188739-86-8  
CMF C15 H19 F3 O2



RN 666258-20-4 HCAPLUS  
CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester, polymer with 6,6-difluoro-5-hydroxy-5-(trifluoromethyl)bicyclo[2.2.1]hept-2-en-2-yl ethenesulfonate and 4-ethenyl- $\alpha,\alpha$ -bis(trifluoromethyl)benzenemethanol (9CI) (CA INDEX NAME)

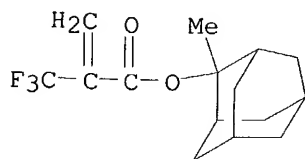
CM 1

CRN 666258-15-7  
CMF C10 H9 F5 O4 S



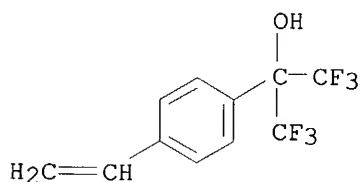
CM 2

CRN 188739-86-8  
CMF C15 H19 F3 O2



CM 3

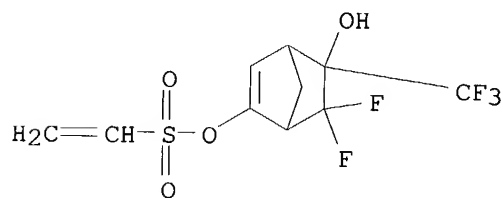
CRN 2386-82-5  
CMF C11 H8 F6 O



RN 666258-22-6 HCAPLUS  
CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester, polymer with 6,6-difluoro-5-hydroxy-5-(trifluoromethyl)bicyclo[2.2.1]hept-2-en-2-yl ethenesulfonate and 5-ethenyl- $\alpha,\alpha,\alpha',\alpha'$ -tetrakis(trifluoromethyl)-1,3-benzenedimethanol (9CI) (CA INDEX NAME)

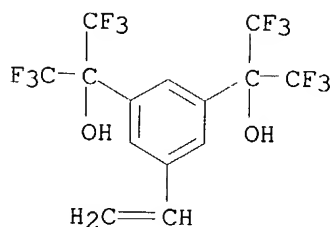
CM 1

CRN 666258-15-7  
CMF C10 H9 F5 O4 S

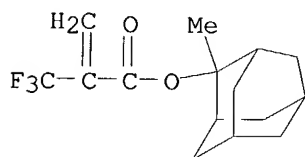


CM 2

CRN 568587-26-8  
CMF C14 H8 F12 O2



CM 3

CRN 188739-86-8  
CMF C15 H19 F3 O2

L109 ANSWER 7 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2003:989982 HCAPLUS  
 DN 140:50311  
 TI Positive photoresist composition  
 IN Sasaki, Tomoya; Mizutani, Kazuyoshi; Kanna, Shinichi  
 PA Fuji Photo Film Co., Ltd., Japan  
 SO U.S. Pat. Appl. Publ., 68 pp.  
 CODEN: USXXCO

DT Patent  
 LA English

FAN.CNT 2

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | US 2003232277  | A1   | 20031218 | US 2003-422789  | 20030425 |
|      | JP 2003316007  | A2   | 20031106 | JP 2002-126433  | 20020426 |
|      | JP 2004062045  | A2   | 20040226 | JP 2002-223234  | 20020731 |
|      | JP 2004062049  | A2   | 20040226 | JP 2002-223386  | 20020731 |
| PRAI | JP 2002-126433 | A    | 20020426 |                 |          |
|      | JP 2002-223234 | A    | 20020731 |                 |          |
|      | JP 2002-223386 | A    | 20020731 |                 |          |

AB The invention relates to a pos. resist composition comprising: (A1) a resin containing at least one type of repeating unit represented by the specific formula and addnl. containing at least one type of repeating unit represented by the specific formula, which increases the solubility in an alkali developing solution by the action of an acid, and (B) a compound which is capable of generating an acid by the action of actinic ray or radiation. The composition shows good transparency towards  $\leq 160$  nm light.

IT 634920-65-3P 634920-77-7P

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (resin; pos. photoresist composition)

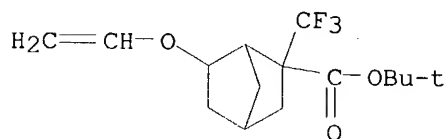
RN 634920-65-3 HCAPLUS

CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 6-(ethenyloxy)-2-(trifluoromethyl)-, 1,1-dimethylethyl ester, polymer with  $\alpha,\alpha$ -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol, 2-(ethenylsulfonyl)bicyclo[2.2.1]heptane and 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl 2-(trifluoromethyl)-2-propenoate (9CI)  
(CA INDEX NAME)

CM 1

CRN 634920-64-2

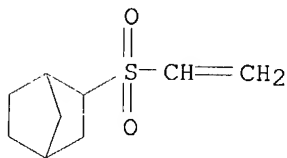
CMF C15 H21 F3 O3



CM 2

CRN 634920-63-1

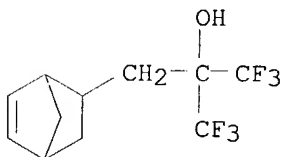
CMF C9 H14 O2 S



CM 3

CRN 196314-61-1

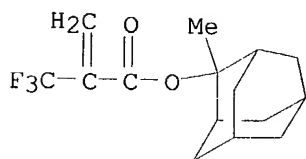
CMF C11 H12 F6 O



CM 4

CRN 188739-86-8

CMF C15 H19 F3 O2



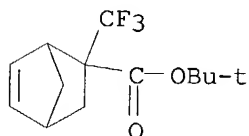
RN 634920-77-7 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 2-(trifluoromethyl)-, 1,1-dimethylethyl ester, polymer with (ethenyloxy)cyclohexane, (ethenylsulfonyl)cyclohexane and 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl 2-(trifluoromethyl)-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 365568-55-4

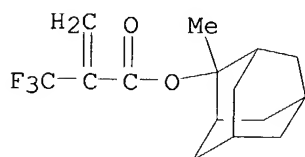
CMF C13 H17 F3 O2



CM 2

CRN 188739-86-8

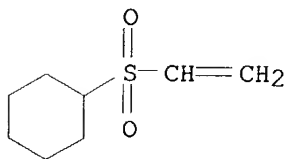
CMF C15 H19 F3 O2



CM 3

CRN 21961-10-4

CMF C8 H14 O2 S

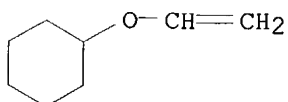


CM 4

CRN 2182-55-0

CMF C8 H14 O

a



L109 ANSWER 8 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:945855 HCAPLUS

DN 140:21264

TI Positive-working photoresist composition containing specific resin

IN Sasaki, Tomoya; Mizutani, Kazuyoshi; Kanna, Shinichi

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 55 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | JP 2003345018  | A2   | 20031203 | JP 2002-149405  | 20020523 |
| PRAI | JP 2002-149405 |      | 20020523 |                 |          |

AB The title composition contains a resin increasing solubility in an alkali developer

by an acid and an actinic ray- or radiation-sensitive acid generator, wherein the resin contains repeating unit  $[-C(R1)(R2)-CC(R3)(R4)]$  ( $R1-3 = H, halo, cyano, alkyl$ ;  $R4 = alkyl, aryl$ ) and fluorine in the side chain. The composition shows the high transparency towards  $\leq 160$  nm light and provides photoresist of high resolution

IT 629653-59-4P 629653-67-4P

RL: **SPN (Synthetic preparation)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)  
(resin; pos.-working **photoresist** composition)

RN 629653-59-4 HCAPLUS

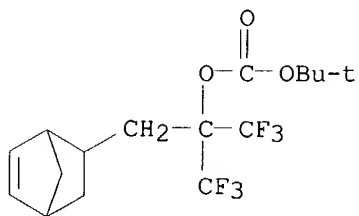
CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester, polymer with 1-(bicyclo[2.2.1]hept-5-en-2-ylmethyl)-2,2,2-trifluoro-1-(trifluoromethyl)ethyl 1,1-dimethylethyl carbonate and 1-(ethenylloxy)-2-methylpropane (9CI) (CA INDEX NAME)

CM 1

CRN 196314-63-3

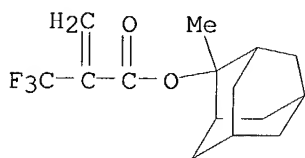
CMF C16 H20 F6 O3





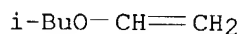
CM 2

CRN 188739-86-8  
CMF C15 H19 F3 O2



CM 3

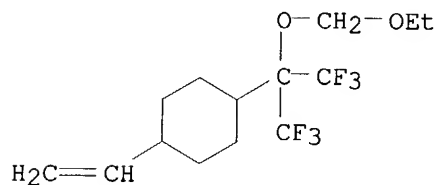
CRN 109-53-5  
CMF C6 H12 O



RN 629653-67-4 HCAPLUS  
CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2-ethyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester, polymer with 1-ethenyl-4-[1-(ethoxymethoxy)-2,2,2-trifluoro-1-(trifluoromethyl)ethyl]cyclohexane and 1-(ethenyloxy)butane (9CI) (CA INDEX NAME)

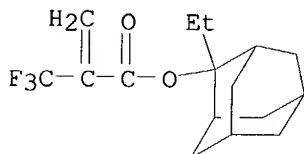
CM 1

CRN 622840-89-5  
CMF C14 H20 F6 O2



CM 2

CRN 444168-44-9  
CMF C16 H21 F3 O2



CM 3

CRN 111-34-2  
CMF C6 H12 O

n-BuO-CH=CH<sub>2</sub>

L109 ANSWER 9 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:906062 HCAPLUS

DN 139:388481

TI Copolymer of alicyclic vinyl ether and base polymer containing the copolymer for photoresist

IN Omori, Hideki; Yamagishi, Takanori; Taniguchi, Masanobu; Takahashi, Eiji; Miwa, Takuya

PA Maruzen Oil Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | JP 2003327628  | A2   | 20031119 | JP 2002-133688  | 20020509 |
| PRAI | JP 2002-133688 |      | 20020509 |                 |          |

AB The copolymer contains a (meth)acrylic acid derivative repeating unit and CR1R2C(R3)OAB [R1-R3 = H, OH, alkoxy, halogen, (halogen- or substituent-containing) C1-6 alkyl; A = direct bond, (substituted) C1-4 alkylene, divalent group comprising (substituted) C1-4 alkylene and ether linkage, ester linkage or CO; B = (substituted) C5-30 alicyclic group; part of R2 or R3 may be linked with A or B to form rings]. The photoresist base polymer contains the copolymer and the photoresist contains the base polymer and a light-sensitive acid-generating agent. The dry etching-resistant photoresist is suitable for ArF excimer laser, etc., for photolithog. in highly integrated circuit fabrication.

IT 624725-22-0P 624725-24-2P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(copolymer of alicyclic monomer and (meth)acrylic acid derivative for photoresist with dry etching resistance)

RN 624725-22-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester, polymer with 5(or 6)-[(ethenyloxy)methyl]octahydro-4,7-methano-1H-

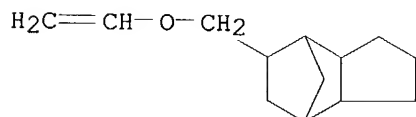
indenemethanol (9CI) (CA INDEX NAME)

CM 1

CRN 485800-39-3

CMF C14 H22 O2

CCI IDS

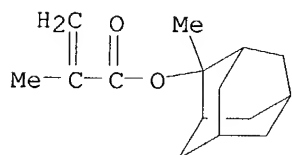


D1-CH<sub>2</sub>-OH

CM 2

CRN 177080-67-0

CMF C15 H22 O2



RN 624725-24-2 HCAPLUS

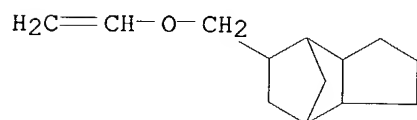
CN 2-Propenoic acid, 2-methyl-, hexahydro-2-oxo-3,5-methano-2H-cyclopenta[b]furan-6-yl ester, polymer with 5(or 6)-[(ethenyloxy)methyl]octahydro-4,7-methano-1H-indenemethanol and 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 485800-39-3

CMF C14 H22 O2

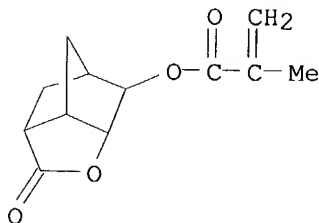
CCI IDS



D1-CH<sub>2</sub>-OH

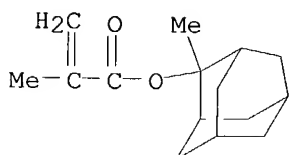
CM 2

CRN 254900-07-7  
CMF C12 H14 O4



CM 3

CRN 177080-67-0  
CMF C15 H22 O2



L109 ANSWER 10 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2003:902631 HCAPLUS  
DN 139:401538  
TI Manufacture of positive-working photoresist composition  
IN Nakao, Hajime  
PA Fuji Photo Film Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 68 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
FAN.CNT 1

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | JP 2003330202  | A2   | 20031119 | JP 2002-134146  | 20020509 |
| PRAI | JP 2002-134146 |      | 20020509 |                 |          |

AB A pos.-working photoresist composition manufacture includes a filtration process to filter an alkaline-developable resin having alicyclic structures by an ion-exchange filter. Photoresist composition shows smaller sensitivity fluctuation and excellent alkaline developer coatability.

IT **398140-48-2P**  
RL: **IMF (Industrial manufacture)**; PUR (Purification or recovery); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)  
(manufacture of pos.-working photoresist composition including filtration process of alkaline-developable resin by ion-exchange filter)

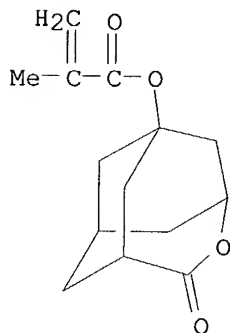
RN 398140-48-2 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-[[[(5,5-dimethyl-3-oxo-1-cyclohexen-1-yl)oxy]sulfonyl]propyl ester, polymer with 2-ethyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl 2-methyl-2-propenoate, 5-oxo-4-oxatricyclo[4.3.1.1<sup>3,8</sup>]undec-1-yl 2-methyl-2-propenoate and tetrahydro-4,4-dimethyl-2-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 348596-87-2

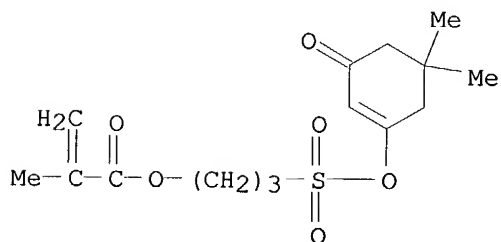
CMF C14 H18 O4



CM 2

CRN 289040-47-7

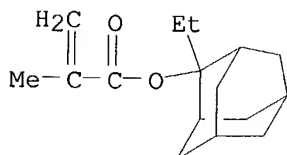
CMF C15 H22 O6 S



CM 3

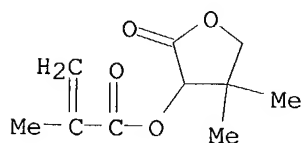
CRN 209982-56-9

CMF C16 H24 O2



CM 4

CRN 156938-13-5  
CMF C10 H14 O4



L109 ANSWER 11 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:902388 HCAPLUS

DN 139:388477

TI Photosensitive polymer involving hydrophilic repeating units and hydrophobic repeating units and chemically amplified photoresist composition containing the polymer

IN Kim, Hyun-Yong; Gu, Sang-Kyun; Jung, Myung-Ho

PA Samsung Electronics Co., Ltd., S. Korea

SO Jpn. Kokai Tokkyo Koho, 14 pp.

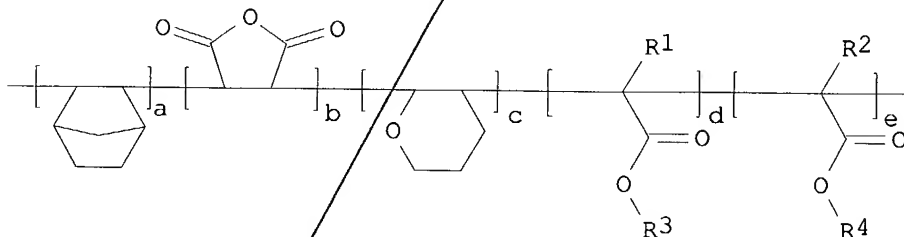
CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

|      | PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE     |
|------|---------------|------|----------|-----------------|----------|
| PI   | JP 2003327631 | A2   | 20031119 | JP 2003-111886  | 20030416 |
|      | US 2003215758 | A1   | 20031120 | US 2003-409346  | 20030408 |
|      | CN 1456580    | A    | 20031119 | CN 2003-110159  | 20030414 |
| PRAI | KR 2002-25137 | A    | 20020507 |                 |          |
| GI   |               |      |          |                 |          |



I

AB The photosensitive polymer contains structures, which involves alicyclic repeating unit, I [R1, R2 = H, Me; R3 = acid-decomposable C4-20 hydrocarbyl; R4 = hydrophilic group; a/(a + b + c + d + e) = 0.01-0.6, b/(a + b + c + d + e) = 0.05-0.7; c/(a + b + c + d + e) = 0.01-0.6, d/(a + b + c + d + e) = 0.1-0.5, e/(a + b + c + d + e) = 0.01-0.5]. The chemical amplified photoresist composition contains the polymer and a photoacid generator, which shows enhanced resistance to dry etching and good adhesion to substrate.

IT 624722-01-6P 624722-02-7P 624722-03-8P

624722-04-9P 624722-06-1P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(polymer involving hydrophilic units and hydrophobic units and chemical amplified photoresist with dry etching resistance)

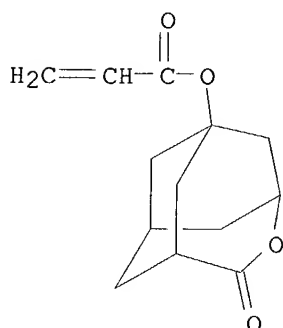
RN 624722-01-6 HCAPLUS

CN 2-Propenoic acid, 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester, polymer with bicyclo[2.2.1]hept-2-ene, 3,4-dihydro-2H-pyran, 2,5-furandione and 5-oxo-4-oxatricyclo[4.3.1.1<sup>3,8</sup>]undec-1-yl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 265999-35-7

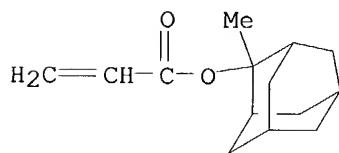
CMF C13 H16 O4



CM 2

CRN 249562-06-9

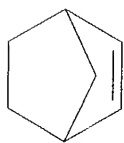
CMF C14 H20 O2



CM 3

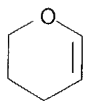
CRN 498-66-8

CMF C7 H10



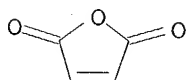
CM 4

CRN 110-87-2  
CMF C5 H8 O



CM 5

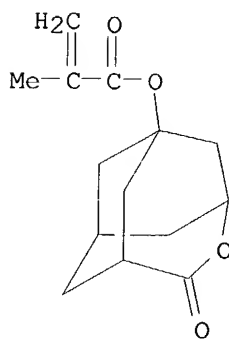
CRN 108-31-6  
CMF C4 H2 O3



RN 624722-02-7 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester,  
polymer with bicyclo[2.2.1]hept-2-ene, 3,4-dihydro-2H-pyran,  
2,5-furandione and 5-oxo-4-oxatricyclo[4.3.1.1<sup>3,8</sup>]undec-1-yl  
2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

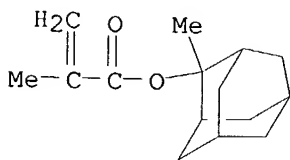
CRN 348596-87-2  
CMF C14 H18 O4



CM 2

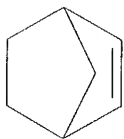
CRN 177080-67-0  
CMF C15 H22 O2





CM 3

CRN 498-66-8  
CMF C7 H10



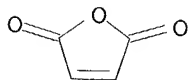
CM 4

CRN 110-87-2  
CMF C5 H8 O



CM 5

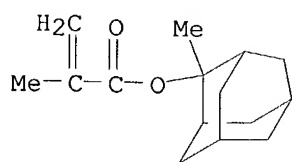
CRN 108-31-6  
CMF C4 H2 O3



RN 624722-03-8 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, 3-hydroxytricyclo[3.3.1.1<sup>3,7</sup>]dec-1-yl ester,  
polymer with bicyclo[2.2.1]hept-2-ene, 3,4-dihydro-2H-pyran,  
2,5-furandione and 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl  
2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

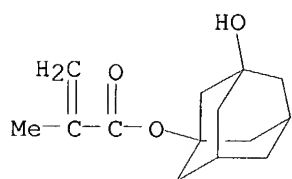
CRN 177080-67-0  
CMF C15 H22 O2



CM 2

CRN 115372-36-6

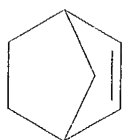
CMF C14 H20 O3



CM 3

CRN 498-66-8

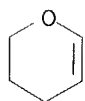
CMF C7 H10



CM 4

CRN 110-87-2

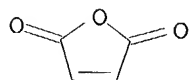
CMF C5 H8 O



CM 5

CRN 108-31-6

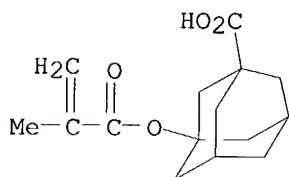
CMF C4 H2 O3



RN 624722-04-9 HCAPLUS  
 CN Tricyclo[3.3.1.1<sup>3,7</sup>]decane-1-carboxylic acid, 3-[(2-methyl-1-oxo-2-propenyl)oxy]-, polymer with bicyclo[2.2.1]hept-2-ene, 3,4-dihydro-2H-pyran, 2,5-furandione and 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

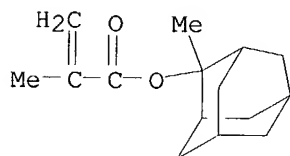
CM 1

CRN 212580-10-4  
 CMF C15 H20 O4



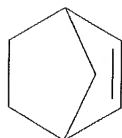
CM 2

CRN 177080-67-0  
 CMF C15 H22 O2



CM 3

CRN 498-66-8  
 CMF C7 H10



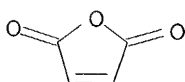
CM 4

CRN 110-87-2  
CMF C5 H8 O



CM 5

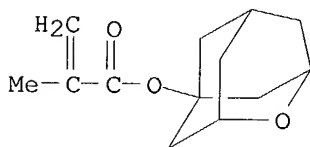
CRN 108-31-6  
CMF C4 H2 O3



RN 624722-06-1 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester,  
polymer with bicyclo[2.2.1]hept-2-ene, 3,4-dihydro-2H-pyran,  
2,5-furandione and 2-oxatricyclo[3.3.1.1<sup>3,7</sup>]dec-5-yl 2-methyl-2-propenoate  
(9CI) (CA INDEX NAME)

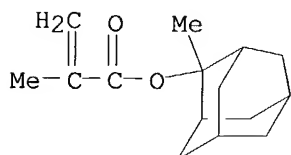
CM 1

CRN 624722-05-0  
CMF C13 H18 O3



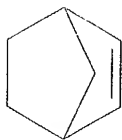
CM 2

CRN 177080-67-0  
CMF C15 H22 O2



CM 3

CRN 498-66-8  
CMF C7 H10



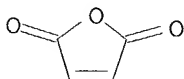
CM 4

CRN 110-87-2  
CMF C5 H8 O



CM 5

CRN 108-31-6  
CMF C4 H2 O3



L109 ANSWER 12 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2003:868611 HCAPLUS  
DN 139:371874  
TI Positive-working photoresist composition for micro-lithography  
IN Sasaki, Tomoya; Mizutani, Kazuyoshi; Kanna, Shinichi  
PA Fuji Photo Film Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 62 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
FAN.CNT 1

|      | PATENT NO.     | KIND | DATE                | APPLICATION NO. | DATE            |
|------|----------------|------|---------------------|-----------------|-----------------|
| PI   | JP 2003316004  | A2   | <del>20031106</del> | JP 2002-117801  | 20020419        |
|      | US 2003219679  | A1   | <del>20031127</del> | US 2003-417209  | <u>20030417</u> |
| PRAI | JP 2002-117801 | A    | 20020419            |                 |                 |

AB The title composition contains a resin increasing the solubility in an alkali developer by an acid and has repeating unit  $[-C(R(1)-1)(R(2)-1)-C(R(3)-1)(-O-L1-Z)](R(1)-1-3 = H, F, Cl, Br, CN, alkyl; L1 = 2\text{-valent connecting group; } Z = \text{acid-sensitive group})$ . The composition shows the high sensitivity and provides pattern of good contrast for semiconductor device fabrication.

IT 622378-53-4P 622378-57-8P 622378-63-6P

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(pos.-working photoresist composition for micro-lithog.)

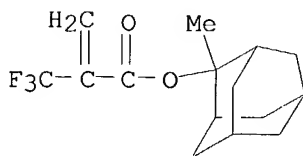
RN 622378-53-4 HCAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester, polymer with 1,1-dimethylethyl 2-(ethenyloxy)ethyl carbonate and 1,1,2,3,3,3-hexafluoro-1-propene (9CI) (CA INDEX NAME)

CM 1

CRN 188739-86-8

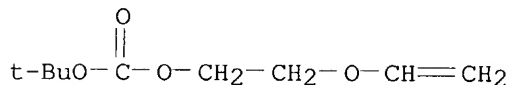
CMF C15 H19 F3 O2



CM 2

CRN 169950-91-8

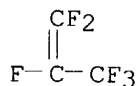
CMF C9 H16 O4



CM 3

CRN 116-15-4

CMF C3 F6



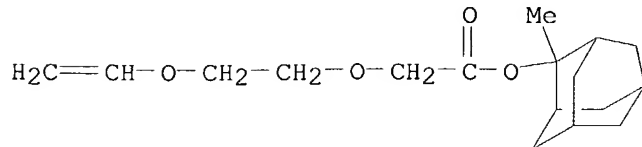
RN 622378-57-8 HCAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2-methylbicyclo[2.2.1]hept-2-yl ester, polymer with 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl [2-(ethenyloxy)ethoxy]acetate and trifluoroethene (9CI) (CA INDEX NAME)

CM 1

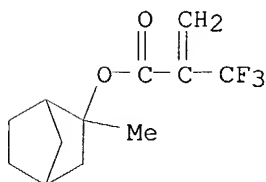
CRN 622378-54-5

CMF C17 H26 O4



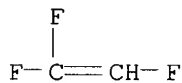
CM 2

CRN 430437-41-5  
CMF C12 H15 F3 O2



CM 3

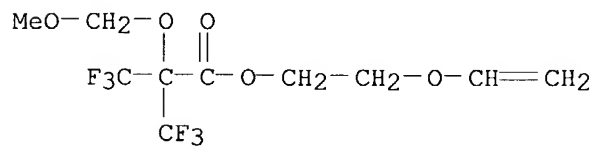
CRN 359-11-5  
CMF C2 H F3



RN 622378-63-6 HCAPLUS  
CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester, polymer with 2-(ethenyloxy)ethyl 3,3,3-trifluoro-2-(methoxymethoxy)-2-(trifluoromethyl)propanoate and tetrafluoroethene (9CI)  
(CA INDEX NAME)

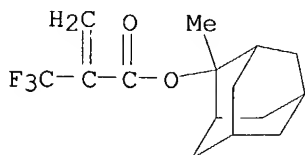
CM 1

CRN 622378-61-4  
CMF C10 H12 F6 O5



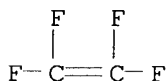
CM 2

CRN 188739-86-8  
CMF C15 H19 F3 O2



CM 3

CRN 116-14-3  
CMF C2 F4



L109 ANSWER 13 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:834248 HCAPLUS

DN 139:330330

TI Chemically amplified photoresist compositions with high sensitivity and resolution

IN Kodama, Kunihiro

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 63 pp.

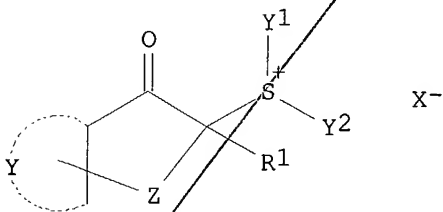
CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

|      | PATENT NO.        | KIND | DATE     | APPLICATION NO. | DATE     |
|------|-------------------|------|----------|-----------------|----------|
| PI   | JP 2003302754     | A2   | 20031024 | JP 2002-110738  | 20020412 |
| PRAI | JP 2002-110738    |      | 20020412 |                 |          |
| OS   | MARPAT 139:330330 |      |          |                 |          |
| GI   |                   |      |          |                 |          |



I

AB The resist compns., useful for excimer laser development, contain photoacid generators I (R<sup>1</sup> = H, alkyl, aryl, cyano; Y<sup>1</sup>, Y<sup>2</sup> = alkyl, aryl,



aralkyl, heteroring; Y = condensed aromatic group, heteroring; Z = single bond, divalent linking group; X- = nonnucleophilic anion).

IT 615278-35-8P

RL: **IMF (Industrial manufacture)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)

(sulfonium-based photoacid generators for excimer laser-sensitive **photoresists** with high sensitivity and resolution)

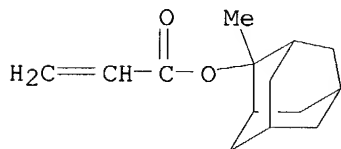
RN 615278-35-8 HCAPLUS

CN 2-Propenoic acid, 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester, polymer with bicyclo[2.2.1]hept-2-ene, 3,4-dihydro-2-methoxy-2H-pyran and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 249562-06-9

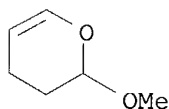
CMF C14 H20 O2



CM 2

CRN 4454-05-1

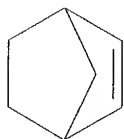
CMF C6 H10 O2



CM 3

CRN 498-66-8

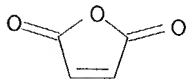
CMF C7 H10



CM 4

CRN 108-31-6

CMF C4 H2 O3



L109 ANSWER 14 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2003:818014 HCAPLUS  
 DN 139:314472  
 TI Photosensitive polymers containing adamantylalkyl vinyl ether and resist compositions including the same  
 IN Choi, Sang-jun  
 PA S. Korea  
 SO U.S. Pat. Appl. Publ., 8 pp., Cont.-in-part of U.S. Ser. No. 764,150.  
 CODEN: USXXCO  
 DT Patent  
 LA English  
 FAN.CNT 3

|      | PATENT NO.      | KIND | DATE     | APPLICATION NO. | DATE     |
|------|-----------------|------|----------|-----------------|----------|
| PI   | US 2003194643   | A1   | 20031016 | US 2003-392931  | 20030321 |
|      | US 6517990      | B1   | 20030211 | US 2000-576053  | 20000523 |
|      | US 2001024763   | A1   | 20010927 | US 2001-764150  | 20010119 |
|      | US 6673513      | B2   | 20040106 |                 |          |
|      | CN 1472231      | A    | 20040204 | CN 2003-149009  | 20030619 |
|      | JP 2004043807   | A2   | 20040212 | JP 2003-176840  | 20030620 |
| PRAI | KR 2000-2489    | A    | 20000119 |                 |          |
|      | KR 2000-20603   | A    | 20000419 |                 |          |
|      | US 2000-198761P | P    | 20000421 |                 |          |
|      | US 2000-576053  | A2   | 20000523 |                 |          |
|      | US 2001-764150  | A2   | 20010119 |                 |          |
|      | KR 2002-34998   | A    | 20020621 |                 |          |

AB A photosensitive polymer useful in photoresists is characterized by contg. structural units derived from adamantylalkyl vinyl ethers. Photoresists containing the polymer are also claimed.

IT 611206-47-4P 611206-48-5P 611206-51-0P

RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(photosensitive polymers containing adamantylalkyl vinyl ether for photoresists)

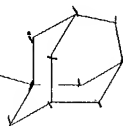
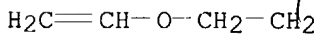
RN 611206-47-4 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester, polymer with 1-[2-(ethenyloxy)ethyl]tricyclo[3.3.1.1<sup>3,7</sup>]decane and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

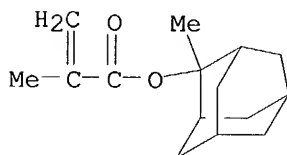
CRN 474745-04-5

CMF C14 H22 O



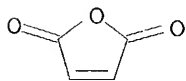
CM 2

CRN 177080-67-0  
CMF C15 H22 O2



CM 3

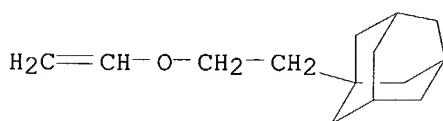
CRN 108-31-6  
CMF C4 H2 O3



RN 611206-48-5 HCAPLUS  
CN 2-Propenoic acid, 2-methyltricyclo[3.3.1.1.3]dec-2-yl ester, polymer with  
1-[2-(ethenyloxy)ethyl]tricyclo[3.3.1.1.3]decane and 2,5-furandione (9CI)  
(CA INDEX NAME)

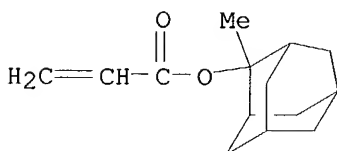
CM 1

CRN 474745-04-5  
CMF C14 H22 O



CM 2

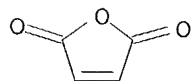
CRN 249562-06-9  
CMF C14 H20 O2



CM 3

CRN 108-31-6

CMF C4 H2 O3



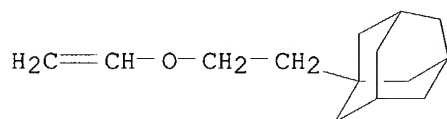
RN 611206-51-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester, polymer with bicyclo[2.2.1]hept-2-ene, 1-[2-(ethenyloxy)ethyl]tricyclo[3.3.1.1<sup>3,7</sup>]decane and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 474745-04-5

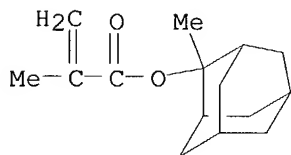
CMF C14 H22 O



CM 2

CRN 177080-67-0

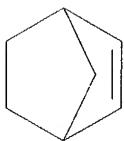
CMF C15 H22 O2



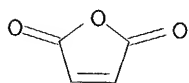
CM 3

CRN 498-66-8

CMF C7 H10



CM 4

CRN 108-31-6  
CMF C4 H2 O3

L109 ANSWER 15 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:811839 HCAPLUS

DN 139:330321

TI Positive-working chemically amplified photoresist composition containing specific polymer

IN Sasaki, Tomoya; Mizutani, Kazuyoshi; Kanna, Shinichi

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 65 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | JP 2003295442  | A2   | 20031015 | JP 2002-101462  | 20020403 |
| PRAI | JP 2002-101462 |      | 20020403 |                 |          |

AB The title composition contains an acid-sensitive polymer, wherein the polymer contains repeating unit  $[-C(R(I)-1)(R(I)-2)-C(R(I)-3)(R(I)-4)]$ ,  $[-C(R(II)-1)(R(II)-2)-C(R(II)-3)(R(II)-4)]$ , and one of following repeating units:  $[-C(R(IIIa)-1)(R(IIIa)-2)-C(R(IIIa)-3)(-L-Va)]$ ;  $[-C(R(IIIb)-1)(-L2-V2a)-C(R(IIIb)-3)(-L1-V1a)]$ ;  $[-Q(Rb)1(-L3-V3a)]$  ( $R(I)-1-4 = H, F, Cl, Br, alkyl, etc.$ ;  $R(II)-1-3 = H, alkyl$ ;  $R(II)-4 = alkyl$ ;  $L1-3 = 2$ -valent connecting group;  $Va, V1a, V3a = acid-sensitive group$ ;  $V2a = H, -R, -OR, etc.$ ;  $R = alkyl$ ;  $Q = alicyclic hydrocarbon$ ;  $Rb = H, alkyl, halo$ ;  $l = 0-3$  integer). The composition generates decreased amount

of

particles in the solution and provides photoresist of good transparency towards  $\leq 160$  nm light, high sensitivity, and good contrast.

IT 612836-96-1P

RL: **SPN (Synthetic preparation)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)

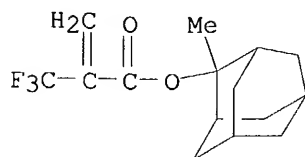
(resin in pos.-working chemical amplified **photoresist** composition)

RN 612836-96-1 HCAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester, polymer with trifluoroethene and [2-(2,2,2-trifluoroethoxy)ethoxy]ethene (9CI) (CA INDEX NAME)

CM 1

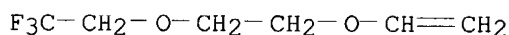
CRN 188739-86-8  
CMF C15 H19 F3 O2



CM 2

CRN 18006-63-8

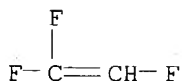
CMF C6 H9 F3 O2



CM 3

CRN 359-11-5

CMF C2 H F3



L109 ANSWER 16 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:735196 HCAPLUS

DN 139:267983

TI Positive-working photoresist composition containing polymer with fluoro-aliphatic group

IN Fujimori, Toru

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 88 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

|      | PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE     |
|------|---------------|------|----------|-----------------|----------|
| PI   | JP 2003262952 | A2   | 20030919 | JP 2002-65444   | 20020311 |
| PRAI | JP 2002-65444 |      | 20020311 |                 |          |

AB The composition contains (A) a compound generating an acid by irradiation of actinic

ray, (B) a resin which decomps. by the action of an acid and whose solubility in alkaline developer increases, and (C) a polymer with fluoro-aliphatic group formed from a monomer  $\text{CH}_2:\text{CR}_1\text{COX}(\text{CH}_2)_m(\text{CF}_2\text{CF}_2)_n\text{F}$  ( $\text{R}_1 = \text{H}, \text{Me}; \text{X} = \text{O}, \text{S}$ ,  $\text{NR}_2$ ;  $m = 1-6$ ;  $n = 2-4$ ;  $\text{R}_2 = \text{H}, \text{C1-4 alkyl}$ ). Developing defect is prevented and the composition is useful for manufacture of integrated circuits, semiconductor device, and wiring substrates.

IT 328061-11-6P 350992-58-4P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(pos. **photoresist** composition containing polymer with fluoro-aliphatic group)

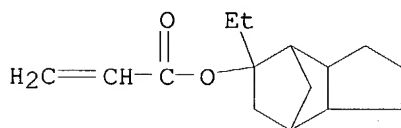
RN 328061-11-6 HCAPLUS

CN 2-Propenoic acid, 5-ethyloctahydro-4,7-methano-1H-inden-5-yl ester, polymer with 3,4-dihydro-2H-pyran and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 307495-75-6

CMF C15 H22 O2



CM 2

CRN 110-87-2

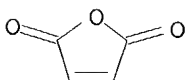
CMF C5 H8 O



CM 3

CRN 108-31-6

CMF C4 H2 O3



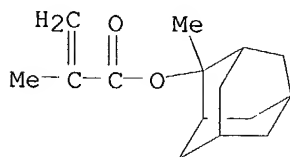
RN 350992-58-4 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1.3,7]dec-2-yl ester, polymer with bicyclo[2.2.1]hept-2-ene, 3,4-dihydro-2H-pyran and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 177080-67-0

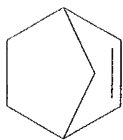
CMF C15 H22 O2



CM 2

CRN 498-66-8

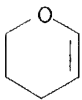
CMF C7 H10



CM 3

CRN 110-87-2

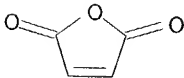
CMF C5 H8 O



CM 4

CRN 108-31-6

CMF C4 H2 O3



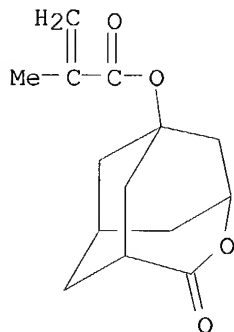
L109 ANSWER 17 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2003:568821 HCAPLUS  
DN 139:140960  
TI Chemically amplified positive photoresists with good profiles  
IN Nakao, Hajime; Kodama, Kunihiro  
PA Fuji Photo Film Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 82 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505



## FAN.CNT 2

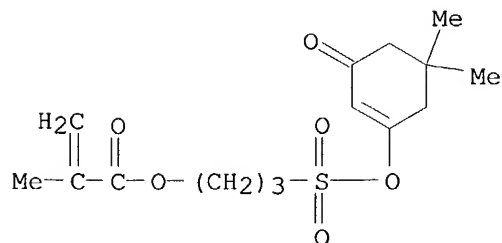
|      | PATENT NO.   | KIND | DATE     | APPLICATION NO. | DATE            |
|------|--|------|----------|-----------------|-----------------|
| PI   | JP 2003207886  | A2   | 20030725 | JP 2002-3900    | 20020110        |
|      | US 2003224285  | A1   | 20031204 | US 2003-838737  | <u>20030109</u> |
| PRAI | JP 2002-3899   | A    | 20020110 |                 |                 |
|      | JP 2002-3900   | A    | 20020110 |                 |                 |
| AB   | The compns. comprise (A) compds. generating aromatic sulfonic acids containing   |      |          |                 |                 |
| F    | by irradiation, (B) alkanesulfonic acid onium salts and/or carboxylic acid onium salts having no F on $\alpha$ -position, and (C) resins having mono- or poly-alicyclic hydrocarbon structures, which increase their alkali solubility by acid decomposition   |      |          |                 |                 |
| IT   | <b>398140-48-2P</b>  |      |          |                 |                 |
|      | RL: <b>IMF (Industrial manufacture)</b> ; TEM (Technical or engineered material use); <b>PREP (Preparation)</b> ; USES (Uses)  |      |          |                 |                 |
|      | (chemical amplified pos. <b>photoresists</b> with good profiles)   |      |          |                 |                 |
| RN   | 398140-48-2 HCAPLUS  |      |          |                 |                 |
| CN   | 2-Propenoic acid, 2-methyl-, 3-[[[(5,5-dimethyl-3-oxo-1-cyclohexen-1-yl)oxy]sulfonyl]propyl ester, polymer with 2-ethyltricyclo[3.3.1.1 <sup>3,7</sup> ]dec-2-yl 2-methyl-2-propenoate, 5-oxo-4-oxatricyclo[4.3.1.1 <sup>3,8</sup> ]undec-1-yl 2-methyl-2-propenoate and tetrahydro-4,4-dimethyl-2-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME) |      |          |                 |                 |
| CM   | 1  |      |          |                 |                 |
| CRN  | 348596-87-2  |      |          |                 |                 |
| CMF  | C14 H18 O4   |      |          |                 |                 |



CM 2

CRN 289040-47-7

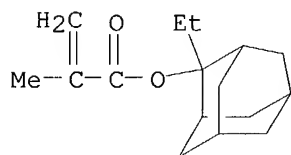
CMF C15 H22 O6 S



CM 3

CRN 209982-56-9

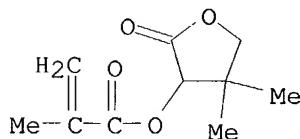
CMF C16 H24 O2



CM 4

CRN 156938-13-5

CMF C10 H14 O4



L109 ANSWER 18 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:568820 HCAPLUS

DN 139:140959

TI Chemically amplified positive photoresist compositions with good developability and post-exposure-delay stability

IN Nakao, Hajime; Kawabe, Yasumasa; Fujimori, Toru

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 76 pp.

CODEN: JKXXAF

DT Patent

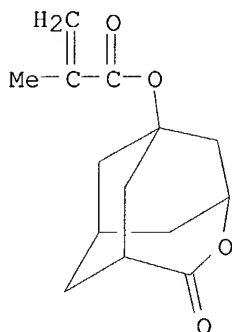
LA Japanese

FAN.CNT 2

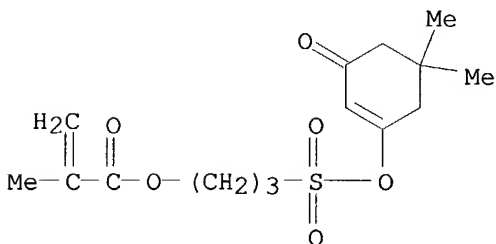
|      | PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE            |
|------|---------------|------|----------|-----------------|-----------------|
| PI   | JP 2003207885 | A2   | 20030725 | JP 2002-3899    | 20020110        |
|      | US 2003224285 | A1   | 20031204 | US 2003-338737  | <u>20030109</u> |
| PRAI | JP 2002-3899  | A    | 20020110 |                 |                 |

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

JP 2002-3900 A 20020110  
 AB The compns. comprise (A) compds. generating aromatic sulfonic acids containing  
 F  
 by irradiation, (B) resins having mono- or poly-alicyclic hydrocarbon  
 structures, which increase their alkali solubility by acid decomposition, and  
 (C)  
 compds. having  $\geq 3$  OH or substituted OH and  $\geq 1$  ring  
 structures.  
 IT **398140-48-2P**  
 RL: **IMF (Industrial manufacture)**; TEM (Technical or engineered  
 material use); **PREP (Preparation)**; USES (Uses)  
 (chemical amplified pos. **photoresists** with good developability  
 and post-exposure-delay stability)  
 RN 398140-48-2 HCAPLUS  
 CN 2-Propenoic acid, 2-methyl-, 3-[[[(5,5-dimethyl-3-oxo-1-cyclohexen-1-  
 yl)oxy]sulfonyl]propyl ester, polymer with 2-ethyltricyclo[3.3.1.1<sup>3,7</sup>]dec-  
 2-yl 2-methyl-2-propenoate, 5-oxo-4-oxatricyclo[4.3.1.1<sup>3,8</sup>]undec-1-yl  
 2-methyl-2-propenoate and tetrahydro-4,4-dimethyl-2-oxo-3-furanyl  
 2-methyl-2-propenoate (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 348596-87-2  
 CMF C14 H18 O4

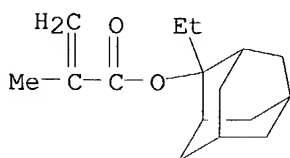


CM 2  
 CRN 289040-47-7  
 CMF C15 H22 O6 S



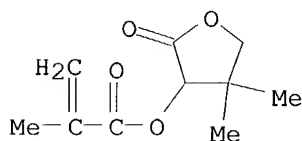
CM 3

CRN 209982-56-9  
CMF C16 H24 O2



CM 4

CRN 156938-13-5  
CMF C10 H14 O4



L109 ANSWER 19 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:525434 HCAPLUS

DN 139:108691

TI Polymers having acid-dissociable groups, chemically amplified photoresists with good vacuum UV transparency and etching resistance, and pattern formation using them

IN Hatakeyama, Jun; Harada, Yuji; Kawai, Yoshio; Sasako, Masaru; Endo, Masataka; Kishimura, Shinji; Maeda, Kazuhiko; Otani, Michitaka; Komoritani, Haruhiko

PA Shin-Etsu Chemical Industry Co., Ltd., Japan; Matsushita Electric Industrial Co., Ltd.; Central Glass Co., Ltd.

SO Jpn. Kokai Tokkyo Koho, 35 pp.

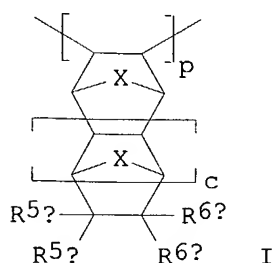
CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | JP 2003192735  | A2   | 20030709 | JP 2001-393354  | 20011226 |
| PRAI | JP 2001-393354 |      | 20011226 |                 |          |
| GI   |                |      |          |                 |          |



AB The invention relates to polymers having repeating units of (CR<sub>1</sub>R<sub>2</sub>CR<sub>3</sub>CO<sub>2</sub>R<sub>4</sub>)<sub>m</sub> (R<sub>1</sub>, R<sub>2</sub> = H, F, C<sub>1</sub>-20-alkyl, fluoroalkyl; R<sub>3</sub> = F, C<sub>1</sub>-20-alkyl, fluoroalkyl; R<sub>4</sub> = acid-unstabilizable group; 0 ≤ m < 1), (CR<sub>1</sub>R<sub>2</sub>CR<sub>3</sub>OH)<sub>n</sub> (R<sub>1</sub>-3 = same as above; 0 < n < 1), and I [R<sub>5a</sub>, R<sub>5b</sub>, R<sub>6a</sub>, R<sub>6b</sub> = H, OH, C<sub>1</sub>-20-alkyl, fluoroalkyl, (CH<sub>2</sub>)<sub>d</sub>CO<sub>2</sub>R<sub>7</sub>, (CH<sub>2</sub>)<sub>d</sub>CR<sub>8</sub>OR<sub>7</sub>; R<sub>7</sub> = acid-unstabilizable group, adhesive group, H, C<sub>1</sub>-20-alkyl, fluoroalkyl, etc.; R<sub>8</sub> = R<sub>1</sub>, R<sub>2</sub>; 0 ≤ p < 1; 0 < m + n + p ≤ 1; m = p ≠ 0; c = 0, 1; d = 0-6; X = methylene, ethylene, O, S]. The photoresists are patterned by F<sub>2</sub> laser, Ar<sub>2</sub> laser, or soft X ray.

IT **557112-92-2P**

RL: **IMF (Industrial manufacture)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)

(chemical amplified **photoresists** with good vacuum UV transparency and etching resistance)

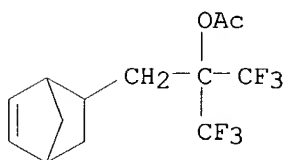
RN 557112-92-2 HCAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester, polymer with 1-(bicyclo[2.2.1]hept-5-en-2-ylmethyl)-2,2,2-trifluoro-1-(trifluoromethyl)ethyl acetate and 1-(trifluoromethyl)ethenyl acetate (9CI) (CA INDEX NAME)

CM 1

CRN 370866-40-3

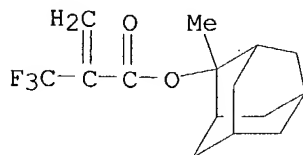
CMF C13 H14 F6 O2



CM 2

CRN 188739-86-8

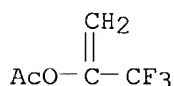
CMF C15 H19 F3 O2



CM 3

CRN 2247-91-8

CMF C5 H5 F3 O2



L109 ANSWER 20 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:432993 HCAPLUS

DN 139:28625

TI Positive photoresist compositions with suppressed edge roughness

IN Fujimori, Toru; Kawamura, Koichi

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 89 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | JP 2003162061  | A2   | 20030606 | JP 2002-219789  | 20020729 |
| PRAI | JP 2001-279708 | A    | 20010914 |                 |          |

OS MARPAT 139:28625

AB The comps., useful for far UV radiation (e.g. excimer laser), comprise (A) alicyclic group-containing resins that increase their alkali-solubility in the

presence of acids, (B) photoacid generators (PAG), and (C) compds. having sulfonimide structures in a mol. R1N(SO2R2)SO2R3 (R1 = H, halo, alkyl, cycloalkyl, aryl, aralkyl, heterocyclic group; R2, R3 = alkyl, cycloalkyl, aryl, aralkyl, heterocyclic group).

IT 398140-48-2P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

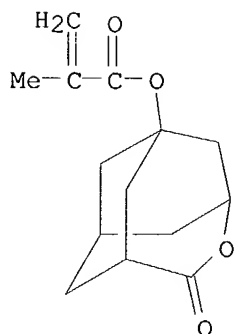
(pos. photoresists containing sulfonimides with suppressed edge roughness)

RN 398140-48-2 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-[[[(5,5-dimethyl-3-oxo-1-cyclohexen-1-yl)oxy]sulfonyl]propyl ester, polymer with 2-ethyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl 2-methyl-2-propenoate, 5-oxo-4-oxatricyclo[4.3.1.1<sup>3,8</sup>]undec-1-yl 2-methyl-2-propenoate and tetrahydro-4,4-dimethyl-2-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

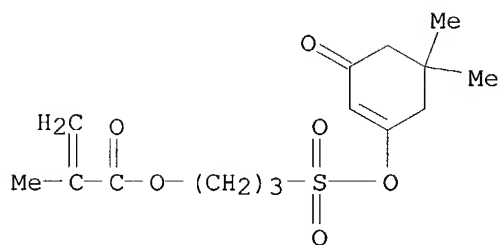
CM 1

CRN 348596-87-2  
CMF C14 H18 O4



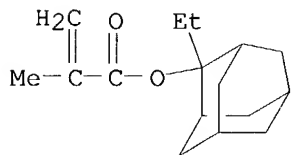
CM 2

CRN 289040-47-7  
CMF C15 H22 O6 S



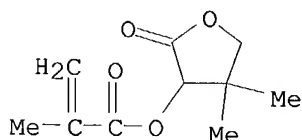
CM 3

CRN 209982-56-9  
CMF C16 H24 O2



CM 4

CRN 156938-13-5  
CMF C10 H14 O4



L109 ANSWER 21 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:422227 HCAPLUS

DN 139:14960

TI Macromolecules with high etching resistance, their positive photoresist compositions, and semiconductor device fabrication by using the same

IN Tsutsumi, Kiyoharu

PA Daicel Chemical Industries, Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 15 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

|      | PATENT NO.     | KIND | DATE                | APPLICATION NO. | DATE     |
|------|----------------|------|---------------------|-----------------|----------|
| PI   | JP 2003160612  | A2   | <del>20030603</del> | JP 2001-359905  | 20011126 |
| PRAI | JP 2001-359905 |      | 20011126            |                 |          |

AB The pos. photoresist compns. contain (A) macromols. prepared by homopolymn. of  $\geq 1$  vinyl ether compds. or copolymn. of  $\geq 1$  vinyl ether compds. and other polymerizable compds. and (B) photoacid generators. Cpreferably,  $\geq 1$  of the vinyl ether compds. comprise those having alicyclic hydrocarbon-based structures, more preferably, cyclohexane ring, adamantane ring, norbornane ring, isobornane ring, tricyclodecane ring, or tetracyclododecane ring. The alicyclic hydrocarbon-based structures may be substituted with polar functional groups, preferably, OH, oxo group, CO<sub>2</sub>H, alkoxycarbonyl group, or lactone ring-based groups.

IT 535931-34-1P

RL: **IMF (Industrial manufacture)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)

(pos. **photoresist** compns. containing etching-resistant vinyl ether-based photopolymers for semiconductor device fabrication)

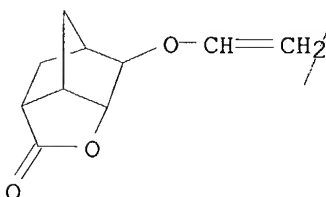
RN 535931-34-1 HCAPLUS

CN 2-Propenoic acid, 3,5-dihydroxytricyclo[3.3.1.1<sup>3,7</sup>]dec-1-yl ester, polymer with 6-(ethenyloxy)hexahydro-3,5-methano-2H-cyclopenta[b]furan-2-one, 2,5-furandione and 1-methyl-1-tricyclo[3.3.1.1<sup>3,7</sup>]dec-1-ylethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 500541-94-6

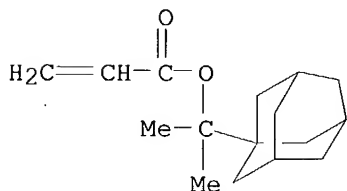
CMF C10 H12 O3





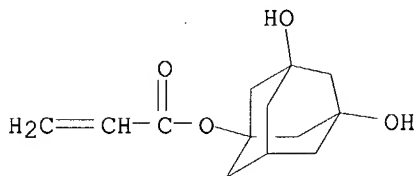
CM 2

CRN 300833-10-7  
CMF C16 H24 O2



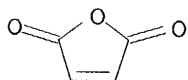
CM 3

CRN 216581-85-0  
CMF C13 H18 O4



CM 4

CRN 108-31-6  
CMF C4 H2 O3



L109 ANSWER 22 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:367024 HCAPLUS

DN 138:376412

TI Positive-working resist composition containing vinyl ether compound

IN Nishiyama, Fumiyuki; Fujimori, Toru

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 30 pp.

CODEN: JKXXAF

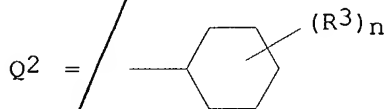
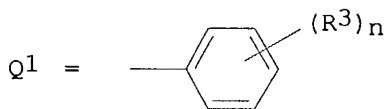
DT Patent

LA Japanese

FAN.CNT 1

| PATENT NO. | KIND | DATE  | APPLICATION NO. | DATE  |
|------------|------|-------|-----------------|-------|
| -----      | ---  | ----- | -----           | ----- |

PI JP 2003140348 A2 20030514 JP 2001-339364 20011105  
 PRAI JP 2001-339364 20011105  
 GI



AB The composition contains (A) a polymer with a structural unit having a group OCHMeO(CR1R2)mZ1 [R1-2 = H, (un)substituted alkyl; m = 1-20; Z1 = Q1, Q2; R3 = (un)substituted alkyl, aryl, aralkyl; n = 0-5] and/or (B) a polymer with a structural unit having a group OCHMeOR4 (R4 = alkyl) in which the solubility of A and B in alkaline developer increases by the action of an acid, (C)

a compound generating an acid by the action of actinic ray or radiation, and (D) a vinyl ether compound H2C:CHOXY1P [X = (un)substituted alkylene; Y = divalent linkage; P = (un)substituted heterocycle; l = 0, 1]. The fluctuation of line width caused by the variation of the resist thickness due to the substrate unevenness is effectively prevented.

IT 521809-63-2DP, ethers with Et vinyl ether

RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(pos. photoresist composition containing polymer with ether protective group, acid generator, and vinyl ether compound)

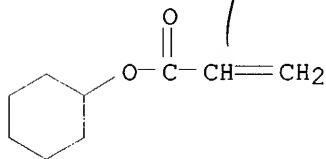
RN 521809-63-2 HCAPLUS

CN 2-Propenoic acid, cyclohexyl ester, polymer with ethoxyethene (9CI) (CA INDEX NAME)

CM 1

CRN 3066-71-5

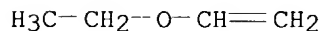
CMF C9 H14 O2



CM 2

CRN 109-92-2

CMF C4 H8 O



L109 ANSWER 23 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:317557 HCAPLUS

DN 138:346481

TI Positive-working chemically amplified photoresist composition for far-UV exposure

IN Kodama, Kunihiro

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 75 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | JP 2003122011  | A2   | 20030425 | JP 2001-320379  | 20011018 |
| PRAI | JP 2001-320379 |      | 20011018 |                 |          |

AB The title composition contains an acid generator, a resin increasing the solubility

in an alkali developer with an acid, and a basic or acid compound containing N, wherein the resin has an alicyclic group with a ring or multiple rings.

The composition provides the wide exposure latitude and good pattern characteristics disregarding pattern d.

IT 398140-48-2P

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(resin in pos.-working chemical amplified photoresist composition)

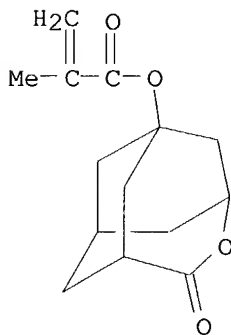
RN 398140-48-2 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-[[[(5,5-dimethyl-3-oxo-1-cyclohexen-1-yl)oxy]sulfonyl]propyl ester, polymer with 2-ethyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl 2-methyl-2-propenoate, 5-oxo-4-oxatricyclo[4.3.1.1<sup>3,8</sup>]undec-1-yl 2-methyl-2-propenoate and tetrahydro-4,4-dimethyl-2-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 348596-87-2

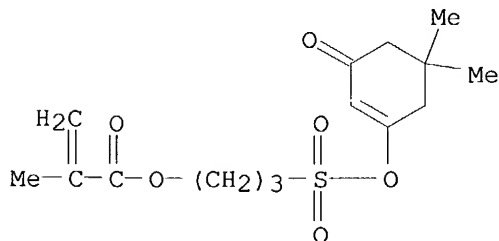
CMF C14 H18 O4



CM 2

CRN 289040-47-7

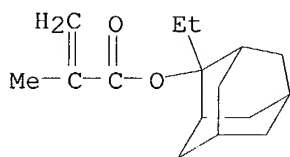
CMF C15 H22 O6 S



CM 3

CRN 209982-56-9

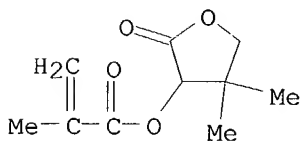
CMF C16 H24 O2



CM 4

CRN 156938-13-5

CMF C10 H14 O4



L109 ANSWER 24 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:282248 HCAPLUS

DN 138:294918

TI Positive photosensitive composition

IN Kodama, Kunihiro

PA Fuji Photo Film Co., Ltd., Japan

SO Eur. Pat. Appl., 85 pp.

CODEN: EPXXDW

DT Patent

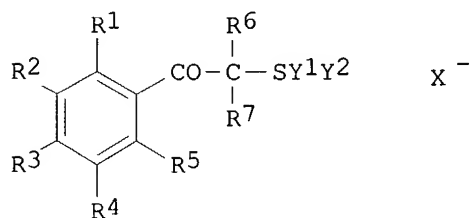
LA English

FAN.CNT 1

|    | PATENT NO. | KIND | DATE     | APPLICATION NO. | DATE     |
|----|------------|------|----------|-----------------|----------|
| PI | EP 1300727 | A2   | 20030409 | EP 2002-22234   | 20021002 |
|    | EP 1300727 | A3   | 20031008 |                 |          |

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK

JP 2003114522 A2 20030418 JP 2001-307537 20011003  
 US 2003148206 A1 20030807 US 2002-261655 20021002  
 PRAI JP 2001-307537 A 20011003  
 OS MARPAT 138:294918  
 GI



AB A pos. photosensitive composition containing (A) an acid generator capable of generating an acid by irradiation with actinic ray or radiation and having a structure I (R1-5 = H, nitro group, halogen, alkyl, alkoxy, etc.; at least two of R1-5 may combine with each other to form a cyclic structure; R6,7 = H, cyano group, alkyl, aryl; Y1, 2 = alkyl, alkenyl; X- = non-nucleophilic anion) and (B) a resin having a monocyclic or polycyclic alicyclic hydrocarbon structure and being decomposed by the action of an acid to increase solubility in an alkali developer. The present invention relates to a pos. photosensitive composition used in a manufacturing process of semiconductors,

such as ICs, in a process of producing circuit boards for liquid crystal display and thermal head, and in other photofabrication processes. The invention is concerned with a pos. photosensitive composition suitable for using far UV radiation having a wavelength of not longer than 250 nm or the like as an exposure light source.

IT **398140-48-2P**

RL: PRP (Properties); **SPN (Synthetic preparation)**; TEM  
 (Technical or engineered material use); **PREP (Preparation)**; USES  
 (Uses)

(side-chain type resin for pos. photosensitive composition for **photoresist**)

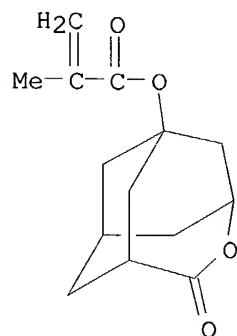
RN 398140-48-2 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-[[[(5,5-dimethyl-3-oxo-1-cyclohexen-1-yl)oxy]sulfonyl]propyl ester, polymer with 2-ethyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl 2-methyl-2-propenoate, 5-oxo-4-oxatricyclo[4.3.1.1<sup>3,8</sup>]undec-1-yl 2-methyl-2-propenoate and tetrahydro-4,4-dimethyl-2-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 348596-87-2

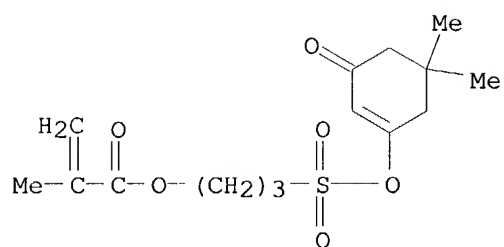
CMF C14 H18 O4



CM 2

CRN 289040-47-7

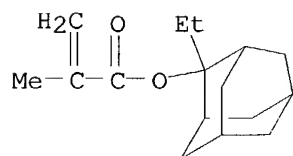
CMF C15 H22 O6 S



CM 3

CRN 209982-56-9

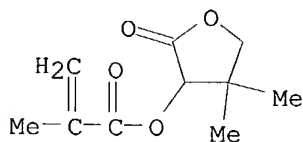
CMF C16 H24 O2



CM 4

CRN 156938-13-5

CMF C10 H14 O4



L109 ANSWER 25 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:257922 HCAPLUS

DN 138:278398

TI Chemically amplified positive photoresists and polymers having hydroxyalkyl vinyl ether units therefor

IN Choi, Sang-Joon

PA Samsung Electronics Co., Ltd., S. Korea

SO Jpn. Kokai Tokyo Koho, 15 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

|      | PATENT NO.    | KIND | DATE                | APPLICATION NO.  | DATE            |
|------|---------------|------|---------------------|------------------|-----------------|
| PI   | JP 2003096136 | A2   | <del>20030403</del> | JP 2002-245183   | 20020826        |
|      | DE 10238038   | A1   | <del>20030522</del> | DE 2002-10238038 | 20020820        |
|      | US 2003091928 | A1   | 20030515            | US 2002-227939   | <u>20020826</u> |
| PRAI | KR 2001-51591 | A    | 20010825            |                  |                 |

AB The polymers consist of (A) unit  $[\text{CH}_2\text{CHO}[(\text{CH}_2)_x\text{CR}_1\text{R}_2\text{OH}]]$  [ $x = 3-6$ ;  $\text{R}_1, \text{R}_2 = \text{C}_1-20$  alkyl,  $\text{C}_1-10$  (per)fluoroalkyl] and (B) acid-labile  $\text{C}_4-20$  hydrocarbyl-substituted unit of (meth)acrylate derivs., fumarate derivs., 4-hydroxystyrene derivs., acrylonitrile derivs., and/or norbornene derivs. at A/B (10-90):(10-90) (mol%) and satisfy  $M_w$  3000-50,000. The photoresists contain the polymers and 1.0-15% (based on the polymer weight) PAG (photoacid generators). The photoresists show good substrate adhesion and improved annealing effects on exclusion of dynamic volume, and are useful for submicron photolithog.

IT 503445-55-4P 503445-56-5P 503445-57-6P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(chemical amplified pos. photoresists containing acid-labile polymers having flexible and hydrophilic backbone)

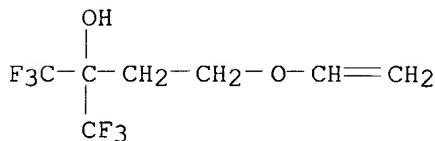
RN 503445-55-4 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester, polymer with 4-(ethenyloxy)-1,1,1-trifluoro-2-(trifluoromethyl)-2-butanol (9CI) (CA INDEX NAME)

CM 1

CRN 503445-54-3

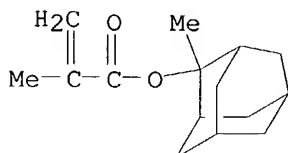
CMF C7 H8 F6 O2



CM 2

CRN 177080-67-0

CMF C15 H22 O2



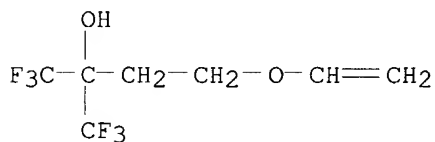
RN 503445-56-5 HCAPLUS

CN 2-Propenoic acid, 5-ethyloctahydro-4,7-methano-1H-inden-5-yl ester,  
polymer with 4-(ethenyloxy)-1,1,1-trifluoro-2-(trifluoromethyl)-2-butanol  
(9CI) (CA INDEX NAME)

CM 1

CRN 503445-54-3

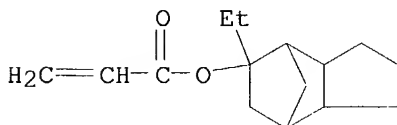
CMF C7 H8 F6 O2



CM 2

CRN 307495-75-6

CMF C15 H22 O2



RN 503445-57-6 HCAPLUS

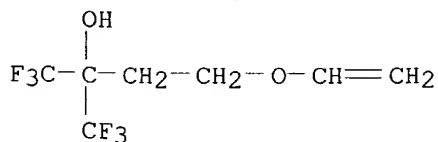
CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester,  
polymer with 4-(ethenyloxy)-1,1,1-trifluoro-2-(trifluoromethyl)-2-butanol  
and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 503445-54-3

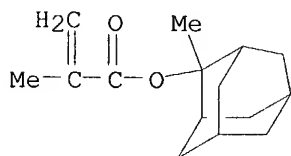
CMF C7 H8 F6 O2





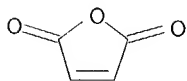
CM 2

CRN 177080-67-0  
CMF C15 H22 O2



CM 3

CRN 108-31-6  
CMF C4 H2 O3



L109 ANSWER 26 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:217340 HCAPLUS

DN 138:262684

TI Chemically amplified photoresist composition containing specific resin and method for pattern formation using the same

IN Hatakeyama, Jun; Takeda, Takanobu; Watanabe, Osamu; Hasegawa, Koji

PA Shin-Etsu Chemical Industry Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 32 pp.

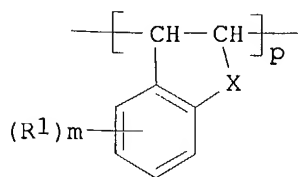
CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | JP 2003084440  | A2   | 20030319 | JP 2002-22638   | 20020131 |
| PRAI | JP 2001-204623 | A    | 20010705 |                 |          |
| GI   |                |      |          |                 |          |



I

AB The title composition contains a resin and a photoacid generator, wherein the resin has repeating unit I( R1 = H, OH, c1-4 alkyl, C1-20 alkoxy, halo; m = 0, 1-4 integer; X = O, S, -NR-; R = H, C1-4 alkyl, OH; p = pos. number).

The composition provides the photoresists of high sensitivity and high resolution

and is suitable for manufacturing super LSI.

IT 502183-74-6DP, hydrolyzed 502183-77-9DP, hydrolyzed

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(photoresist composition containing specific resin and method for pattern formation using the same)

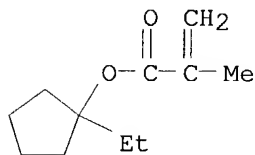
RN 502183-74-6 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1-ethylcyclopentyl ester, polymer with benzofuran and ethenylphenyl acetate (9CI) (CA INDEX NAME)

CM 1

CRN 266308-58-1

CMF C11 H18 O2



CM 2

CRN 59858-52-5

CMF C10 H10 O2

CCI IDS



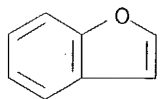
D1-CH=CH2

D1-O-Ac

CM 3

CRN 271-89-6

CMF C8 H6 O



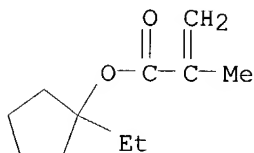
RN 502183-77-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1-ethylcyclopentyl ester, polymer with benzofuran, ethenylphenyl acetate and 1H-indene (9CI) (CA INDEX NAME)

CM 1

CRN 266308-58-1

CMF C11 H18 O2



CM 2

CRN 59858-52-5

CMF C10 H10 O2

CCI IDS



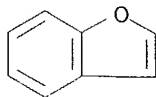
D1-CH=CH2

D1-O-Ac

CM 3

CRN 271-89-6

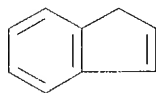
CMF C8 H6 O



CM 4

CRN 95-13-6

CMF C9 H8



L109 ANSWER 27 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:165405 HCAPLUS

DN 138:229246

TI Positive-working photoresist composition and method of forming thermal flow pattern therefrom

IN Fujimori, Toru

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 90 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | JP 2003066626  | A2   | 20030305 | JP 2001-261467  | 20010830 |
| PRAI | JP 2001-261467 |      | 20010830 |                 |          |

AB The pos.-working photoresist composition comprises (a) a photoacid and (b) a resin which has a monocyclic or polycyclic alicyclic hydrocarbon structure, decomp. upon contact with an acid, and increases its solubility in an alkaline developer. The composition further comprises (c) a basic compound and (d) an organic solvent. The composition further contains (e) a silicone-based or F-based surfactant. The composition further contains a a low mol. weight compound which changes the glass transition temperature of the resist film.

IT **398140-48-2P**

RL: EPR (Engineering process); PEP (Physical, engineering or chemical process); **SPN (Synthetic preparation)**; TEM (Technical or engineered material use); **PREP (Preparation)**; PROC (Process); USES (Uses)

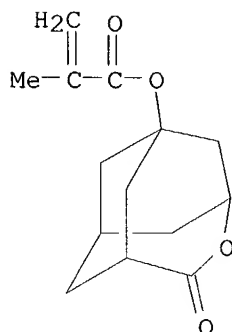
(pos.-working photoresist composition from alicyclic polymer)

RN 398140-48-2 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-[[[(5,5-dimethyl-3-oxo-1-cyclohexen-1-yl)oxy]sulfonyl]propyl ester, polymer with 2-ethyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl 2-methyl-2-propenoate, 5-oxo-4-oxatricyclo[4.3.1.1<sup>3,8</sup>]undec-1-yl 2-methyl-2-propenoate and tetrahydro-4,4-dimethyl-2-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

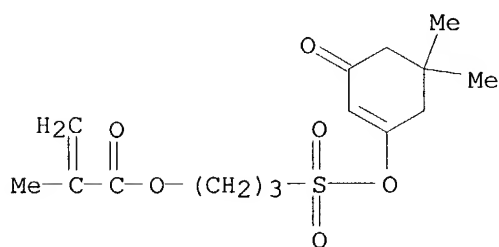
CM 1

CRN 348596-87-2  
CMF C14 H18 O4



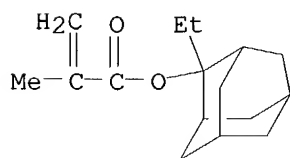
CM 2

CRN 289040-47-7  
CMF C15 H22 O6 S



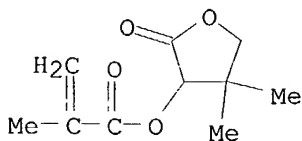
CM 3

CRN 209982-56-9  
CMF C16 H24 O2



CM 4

CRN 156938-13-5  
CMF C10 H14 O4



L109 ANSWER 28 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:152363 HCAPLUS

DN 138:212783

TI Positive-working photoresist composition containing specific acid generator

IN Kodama, Kunihiro

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 67 pp.

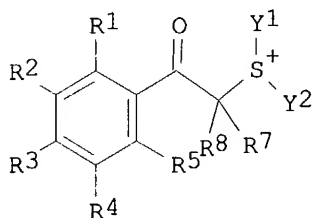
CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

|      | PATENT NO.        | KIND | DATE     | APPLICATION NO. | DATE     |
|------|-------------------|------|----------|-----------------|----------|
| PI   | JP 2003057816     | A2   | 20030228 | JP 2001-250452  | 20010821 |
| PRAI | JP 2001-250452    |      | 20010821 |                 |          |
| OS   | MARPAT 138:212783 |      |          |                 |          |
| GI   |                   |      |          |                 |          |

X<sup>-</sup>  
I

AB The composition contains a radiation- or light-sensitive acid generator, a resin which increases the solubility in an alkali solution by an acid and has mono- or poly-cyclic hydrocarbon structure, wherein the acid generator has structure I (R1-5 = H, nitro, halo, alkyl, etc.; R6-7 = H, cyano, alkyl, aryl; Y1-2 = alkyl, aryl, aralkyl, etc.; X<sup>-</sup> = non-nucleophilic anion). The composition shows the good storageability and the high sensitivity toward light of  $\leq 250$  nm and provides the resist of the improved pattern profile.

IT 398140-48-2P

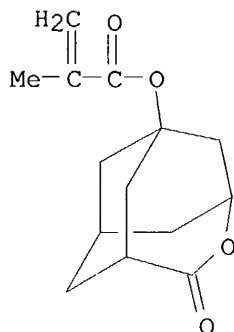
RL: **SPN (Synthetic preparation)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)  
(resin; pos.-working photoresist composition)

RN 398140-48-2 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-[[[(5,5-dimethyl-3-oxo-1-cyclohexen-1-yl)oxy]sulfonyl]propyl ester, polymer with 2-ethyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl 2-methyl-2-propenoate, 5-oxo-4-oxatricyclo[4.3.1.1<sup>3,8</sup>]undec-1-yl 2-methyl-2-propenoate and tetrahydro-4,4-dimethyl-2-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

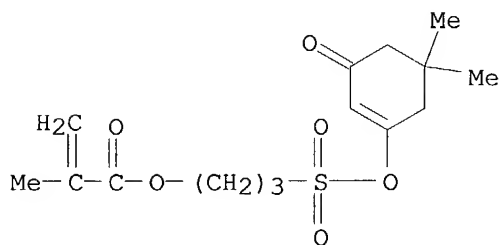
CM 1

CRN 348596-87-2  
CMF C14 H18 O4



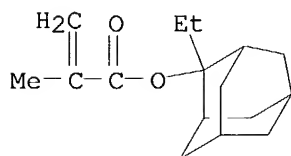
CM 2

CRN 289040-47-7  
CMF C15 H22 O6 S



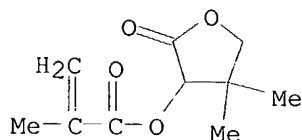
CM 3

CRN 209982-56-9  
CMF C16 H24 O2



CM 4

CRN 156938-13-5  
CMF C10 H14 O4



L109 ANSWER 29 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:35187 HCAPLUS

DN 138:98199

TI Positive-working vacuum UV-sensitive photoresist material composition containing specific resin

IN Kanna, Shinichi; Mizutani, Kazuyoshi

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 39 pp.

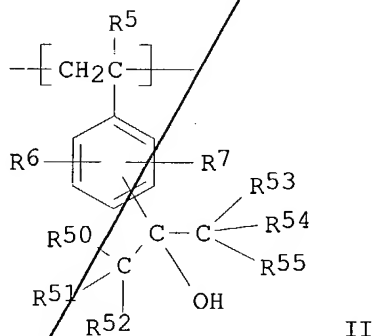
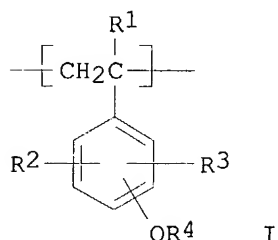
CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | JP 2003015298  | A2   | 20030115 | JP 2001-202241  | 20010703 |
| PRAI | JP 2001-202241 |      | 20010703 |                 |          |
| GI   |                |      |          |                 |          |



AB The title composition contains a resin increasing solubility toward an alkali solution

by an acid, a photoacid generator, and a solvent, wherein the resin contains repeating unit I, II, and  $[-CH(R17a)-C(R17)(COOR18)-]$  (R1,5,17a,17 = H, halo, cyano, alkyl; R2,3,6,7 = H, halo, cyano, hydroxyl, etc.; R50-55 = H, F, alkyl; R4 =  $-C(R11)(R12)(R13)$ ,  $-C(R14)(R15)(-O-R16)$ ; R18 =  $-C(R18d)(R18e)(R18f)$ ,  $-C(R18d)(R18e)-O-(R18g)$ ; R11-13 = alkyl, cycloalkyl, alkenyl, aralkyl, aryl; R14-15 = H, alkyl; R16 = alkyl, cycloalkyl, aralkyl, aryl). The composition provides the good transparency towards vacuum UV and provides the good solubility contrast towards developers.

IT 485390-67-8P

RL: **SPN (Synthetic preparation)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)  
 (resin; pos.-working vacuum UV-sensitive **photoresist** material composition containing specific resin)

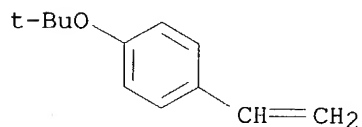


RN 485390-67-8 HCAPLUS  
 CN 2-Propenoic acid, 2-methyl-, tetrahydro-2H-pyran-2-yl ester, polymer with  
 1-(1,1-dimethylethoxy)-4-ethenylbenzene, 4-ethenyl- $\alpha,\alpha$ -  
 bis(trifluoromethyl)benzenemethanol and trifluoro(pentafluoroethoxy)ethene  
 (9CI) (CA INDEX NAME)

CM 1

CRN 95418-58-9

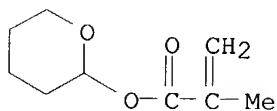
CMF C12 H16 O



CM 2

CRN 52858-59-0

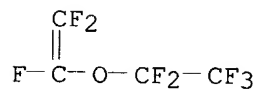
CMF C9 H14 O3



CM 3

CRN 10493-43-3

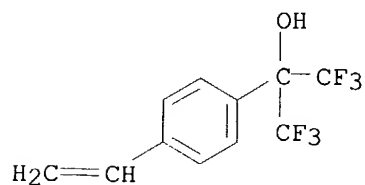
CMF C4 F8 O



CM 4

CRN 2386-82-5

CMF C11 H8 F6 O



L109 ANSWER 30 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2002:904448 HCAPLUS

DN 138:9656

TI Positive photosensitive composition

IN Kodama, Kunihiro; Sato, Kenichiro; Fujimori, Toru

PA Fuji Photo Film Co., Ltd., Japan

SO Eur. Pat. Appl., 145 pp.

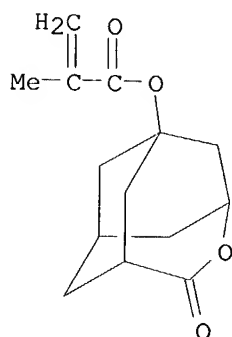
CODEN: EPXXDW

DT Patent

LA English

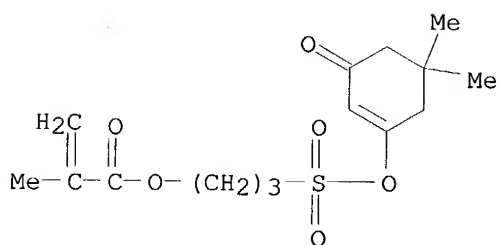
FAN.CNT 1

|      | PATENT NO.   | KIND | DATE     | APPLICATION NO. | DATE     |
|------|--|------|----------|-----------------|----------|
| PI   | EP 1260864   | A1   | 20021127 | EP 2002-11516   | 20020522 |
|      | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR  |      |          |                 |          |
|      | JP 2002351077  | A2   | 20021204 | JP 2001-152587  | 20010522 |
|      | JP 2002351079  | A2   | 20021204 | JP 2001-155897  | 20010524 |
|      | JP 2002351063  | A2   | 20021204 | JP 2001-159060  | 20010528 |
|      | US 2003077540  | A1   | 20030424 | US 2002-150967  | 20020521 |
| PRAI | JP 2001-152587   | A    | 20010522 |                 |          |
|      | JP 2001-155897   | A    | 20010524 |                 |          |
|      | JP 2001-159060   | A    | 20010528 |                 |          |
| OS   | MARPAT 138:9656  |      |          |                 |          |
| AB   | A pos. photosensitive composition comprises (A) a specific acid generator that generates an acid upon irradiation of an actinic ray or radiation, and (B) a resin that has a monocyclic or polycyclic alicyclic hydrocarbon structure and is decomposed by the action of an acid to increase solubility in an alkali developing solution                     |      |          |                 |          |
| IT   | <b>398140-48-2P</b><br>RL: PRP (Properties); <b>SPN (Synthetic preparation)</b> ; TEM<br>(Technical or engineered material use); <b>PREP (Preparation)</b> ; USES<br>(Uses)<br>(resin; pos <b>photoresist</b> composition containing)  |      |          |                 |          |
| RN   | 398140-48-2 HCAPLUS  |      |          |                 |          |
| CN   | 2-Propenoic acid, 2-methyl-, 3-[[[(5,5-dimethyl-3-oxo-1-cyclohexen-1-yl)oxy]sulfonyl]propyl ester, polymer with 2-ethyltricyclo[3.3.1.1 <sup>3,7</sup> ]dec-2-yl 2-methyl-2-propenoate, 5-oxo-4-oxatricyclo[4.3.1.1 <sup>3,8</sup> ]undec-1-yl 2-methyl-2-propenoate and tetrahydro-4,4-dimethyl-2-oxo-3-furanyl 2-methyl-2-propenoate (SCI) (CA INDEX NAME) |      |          |                 |          |
| CM   | 1  |      |          |                 |          |
| CRN  | 348596-87-2  |      |          |                 |          |
| CMF  | C14 H18 O4   |      |          |                 |          |



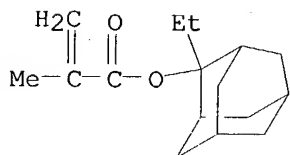
CM 2

CRN 289040-47-7  
CMF C15 H22 O6 S



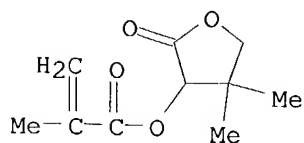
CM 3

CRN 209982-56-9  
CMF C16 H24 O2



CM 4

CRN 156938-13-5  
CMF C10 H14 O4



RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L109 ANSWER 31 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2002:769664 HCAPLUS

DN 137:302214

TI Polymer photoresists and method of patterning

IN Harada, Yuji; Hatakeyama, Jun; Watanabe, Atsushi; Kawai, Yoshio; Sasako, Masaru; Endo, Masataka; Kishimura, Shinji; Otani, Michitaka; Miyazawa, Satoru; Tsutsumi, Kentaro; Maeda, Kazuhiko

PA Shin-Etsu Chemical Industry Co., Ltd., Japan; Matsushita Electric Industrial Co., Ltd.; Central Glass Co., Ltd.

SO Jpn. Kokai Tokkyo Koho, 22 pp.

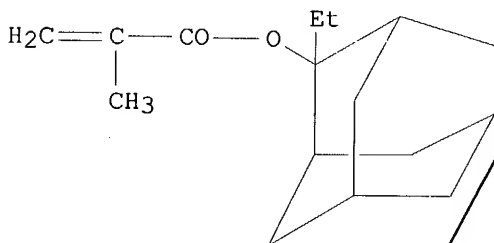
CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

|      | PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE     |
|------|---------------|------|----------|-----------------|----------|
| PI   | JP 2002293840 | A2   | 2002009  | JP 2001-98228   | 20010330 |
| PRAI | JP 2001-98228 |      | 20010330 |                 |          |
| GI   |               |      |          |                 |          |



I

AB The polymers, showing high sensitivity at  $\leq 200$  nm (especially at  $\leq 170$  nm), high transparency, and high plasma etching resistance, have Mw 1000-500,000 and repeating units of  $[\text{CR}_1\text{R}_2\text{CR}_3(\text{CO}_2\text{R}_4)]_a[\text{CR}_5\text{R}_6\text{CR}_7(\text{CO}_2\text{R}_8)]_b[\text{CR}_9\text{R}_{10}\text{CR}_{11}(\text{OR}_{12})]_c$  [ $\text{R}_1, \text{R}_2, \text{R}_5\text{-R}_7, \text{R}_9, \text{R}_{11} = \text{H}, \text{F}$ , linear, branched or cyclic C1-20 alkyl, fluorinated alkyl;  $\text{R}_3 = \text{F}$ , linear, branched or cyclic C1-20 alkyl, fluorinated alkyl;  $\text{R}_4, \text{R}_8 =$  acid-unstable group, adhesive group, H, linear, branched or cyclic C1-20 alkyl, fluorinated alkyl;  $\text{R}_{10}, \text{R}_{12} = \text{H}$ , (hetero atom-containing) hydrocarbyl, fluorinated hydrocarbyl;  $\text{R}_{10}$  and  $\text{R}_{12}$  also may be hydrocarbylene and link together to form a ring;  $0 < a < 1$ ;  $0 \leq b < 1$ ;  $0 < c < 1$ ;  $0 < a + b + c \leq 1$ ]. Thus, a 32:27:41 copolymer of  $\text{H}_2\text{C}:\text{C}(\text{CF}_3)\text{CO}_2\text{CH}_2\text{CF}_3$ , I, and 3,4-dihydropyran was prepared and showed light transmittance 99, 99, and 58%, at 248, 193, and 157 nm, resp.

IT 468102-86-5P 468102-87-6P 468102-89-8P

RL: IMF (Industrial manufacture); PRP (Properties); TEM

(Technical or engineered material use); **PREP (Preparation)**; USES  
(Uses)

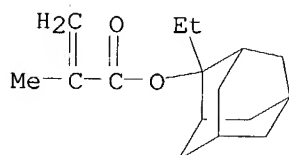
(polymer **photoresists** with high sensitivity and transparency)

RN 468102-86-5 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester,  
polymer with 3,4-dihydro-2H-pyran and 2,2,2-trifluoroethyl  
2-(trifluoromethyl)-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 209982-56-9

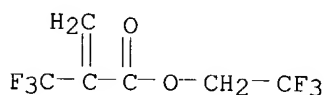
CMF C16 H24 O2



CM 2

CRN 91520-39-7

CMF C6 H4 F6 O2



CM 3

CRN 110-87-2

CMF C5 H8 O

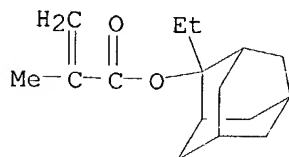


RN 468102-87-6 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester,  
polymer with 1-(ethenyloxy)-2-methylpropane and 2,2,2-trifluoroethyl  
2-(trifluoromethyl)-2-propenoate (9CI) (CA INDEX NAME)

CM 1

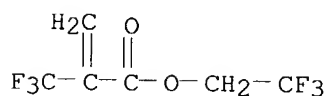
CRN 209982-56-9

CMF C16 H24 O2



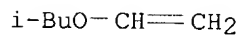
CM 2

CRN 91520-39-7  
CMF C6 H4 F6 O2



CM 3

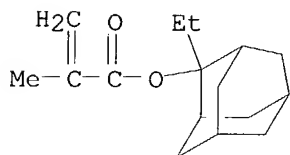
CRN 109-53-5  
CMF C6 H12 O



RN 468102-89-8 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester,  
polymer with 3,4-dihydro-2H-pyran and 1,1-dimethylethyl  
2-(trifluoromethyl)-2-propenoate (9CI) (CA INDEX NAME)

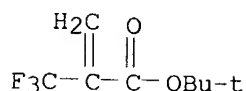
CM 1

CRN 209982-56-9  
CMF C16 H24 O2



CM 2

CRN 105935-24-8  
CMF C8 H11 F3 O2



CM 3

CRN 110-87-2

CMF C5 H8 O



L109 ANSWER 32 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2002:676318 HCAPLUS

DN 137:224113

TI Synthesis of novel polymers for UV photoresist compositions

IN Barclay, George G.; Caporale, Stefan J.; Kavanagh, Robert J.; Pugliano, Nicholas

PA Shipley Company, LLC, USA

SO PCT Int. Appl., 63 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

| PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE     |
|---|------|----------|-----------------|----------|
| WO 2002069040   | A1   | 20020906 | WO 2002-US5609  | 20020226 |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM<br>RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG |      |          |                 |          |
| US 2003027075   | A1   | 20030206 | US 2002-83675   | 20020226 |

PRAI US 2001-271401P P 20010227

AB The invention provides new polymers and photoresists that comprises the polymers. The invention describes the preparation of the polymers and monomers based on maleic anhydride, norbornene and methacrylate derivs. Photoresists containing a polymer of the invention can exhibit significantly improved lithog. properties upon exposure to short wavelength, particularly sub-200-300 nm wavelengths.

IT 350992-58-4P 455640-58-1P

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (novel polymers for UV photoresist compns.)

RN 350992-58-4 HCAPLUS

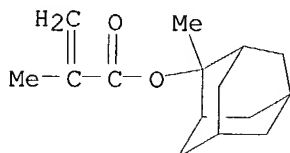
CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester, polymer with bicyclo[2.2.1]hept-2-ene, 3,4-dihydro-2H-pyran and

2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 177080-67-0

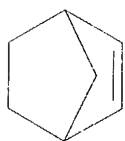
CMF C15 H22 O2



CM 2

CRN 498-66-8

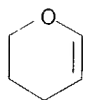
CMF C7 H10



CM 3

CRN 110-87-2

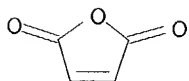
CMF C5 H8 O



CM 4

CRN 108-31-6

CMF C4 H2 O3



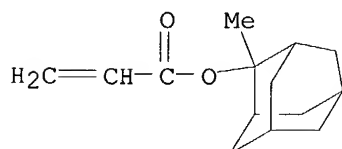
RN 455640-58-1 HCAPLUS

CN 2-Propenoic acid, 2-methyltricyclo[3.3.1.1.3]dec-2-yl ester, polymer with bicyclo[2.2.1]hept-2-ene, 3,4-dihydro-2H-pyran and 2,5-furandione (9CI) (CA INDEX NAME)



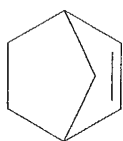
CM 1

CRN 249562-06-9  
CMF C14 H20 O2



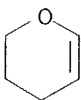
CM 2

CRN 498-66-8  
CMF C7 H10



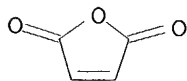
CM 3

CRN 110-87-2  
CMF C5 H8 O



CM 4

CRN 108-31-6  
CMF C4 H2 O3



RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L109 ANSWER 33 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2002:676316 HCAPLUS

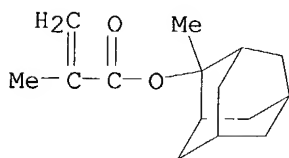
KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

DN 137:224111  
 TI Novel polymers for UV photoresist compositions  
 IN Barclay, George G.; Caporale, Stefan J.  
 PA Shipley Company, L.L.C., USA  
 SO PCT Int. Appl., 31 pp.  
 CODEN: PIXXD2

DT Patent  
 LA English

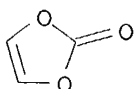
FAN.CNT 1

|      | PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE     |
|------|---|------|----------|-----------------|----------|
| PI   | WO 2002069038   | A2   | 20020906 | WO 2002-US8153  | 20020225 |
|      | WO 2002069038   | A3   | 20030403 |                 |          |
|      | W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG |      |          |                 |          |
|      | US 2003031949   | A1   | 20030213 | US 2002-82770   | 20020225 |
| PRAI | US 2001-271402P   | P    | 20010225 |                 |          |
| AB   | The invention includes polymers that contain a polymers of the invention contain one or more (1) carbonate units and/or (2) a lactone provided by a monomer having a ring oxygen adjacent to the monomer vinyl group. The invention also provides photoresists that contain such polymers, particularly for sharp imaging at short wavelengths such as sub-200 nm.  |      |          |                 |          |
| IT   | <b>455946-70-0P</b><br>RL: <b>SPN (Synthetic preparation)</b> ; TEM (Technical or engineered material use); <b>PREP (Preparation)</b> ; USES: (Uses) (novel polymers for UV <b>photoresist</b> compns.)   |      |          |                 |          |
| RN   | 455946-70-0 HCAPLUS   |      |          |                 |          |
| CN   | 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1 <sup>3,7</sup> ]dec-2-yl ester, polymer with bicyclo[2.2.1]hept-2-ene, 1,3-dioxol-2-one and 2,5-furandione (9CI) (CA INDEX NAME)  |      |          |                 |          |
| CM   | 1   |      |          |                 |          |
| CRN  | 177080-67-0   |      |          |                 |          |
| CMF  | C15 H22 O2  |      |          |                 |          |



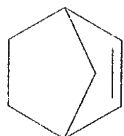
CM 2

CRN 872-36-6  
 CMF C3 H2 O3



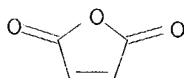
CM 3

CRN 498-66-8  
CMF C7 H10



CM 4

CRN 108-31-6  
CMF C4 H2 O3



L109 ANSWER 34 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2002:237124 HCAPLUS

DN 136:286589

TI Positive-working chemically amplified photoresist composition containing specific acid-sensitive resin and specific nitrogen-containing compound for semiconductor device fabrication

IN Fujimori, Toru; Kawabe, Yasumasa; Nakao, Hajime

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 92 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | JP 2002090987  | A2   | 20020327 | JP 2001-209543  | 20010710 |
|      | US 2002155383  | A1   | 20021024 | US 2001-902793  | 20010712 |
|      | US 6692897     | B2   | 20040217 |                 |          |
| PRAI | JP 2000-211642 | A    | 20000712 |                 |          |

OS MARPAT 136:286589

AB The title composition contains a resin, which has an alicyclic hydrocarbon group, increasing the solubility rate in an alkali by reacting with an acid, a photo-acid generator and a nitrogen-containing compound, wherein the nitrogen-containing compound has group -C(=O)-N(OH)-. The composition provides the

improved line-edge roughness on the photoresist.

IT 398140-48-2P

RL: **SPN (Synthetic preparation)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)  
(resin in pos.-working **photoresist** composition)

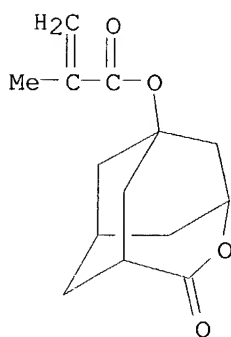
RN 398140-48-2 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-[[[(5,5-dimethyl-3-oxo-1-cyclohexen-1-yl)oxy]sulfonyl]propyl ester, polymer with 2-ethyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl 2-methyl-2-propenoate, 5-oxo-4-oxatricyclo[4.3.1.1<sup>3,8</sup>]undec-1-yl 2-methyl-2-propenoate and tetrahydro-4,4-dimethyl-2-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 348596-87-2

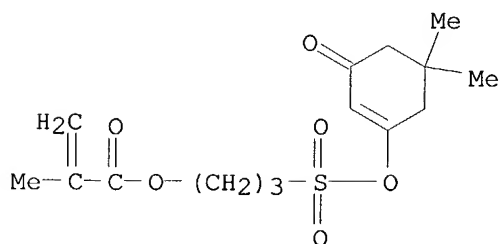
CMF C14 H18 O4



CM 2

CRN 289040-47-7

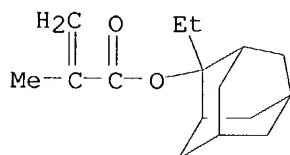
CMF C15 H22 O6 S



CM 3

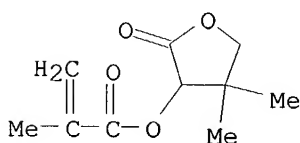
CRN 209982-56-9

CMF C16 H24 O2



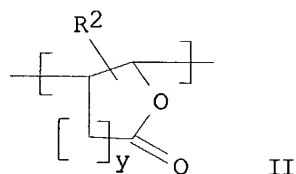
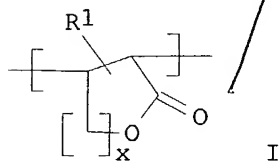
CM 4

CRN 156938-13-5  
CMF C10 H14 O4



L109 ANSWER 35 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2002:219917 HCAPLUS  
DN 136:254554  
TI Chemically amplified positive photoresist compositions having  
lactone-containing polymers with good dry etching resistance  
IN Yoon, Kwang Sup; Jung, Dong Won; Lee, Si Hyeung; Kim, Hyun Woo; Lee, Sook;  
Woo, Sang Gyun; Choi, Sang Joon  
PA Samsung Electronics Co., Ltd., S. Korea  
SO Jpn. Kokai Tokkyo Koho, 22 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
FAN.CNT 1

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | JP 2002082441  | A2   | 20020322 | JP 2001-211147  | 20010711 |
|      | US 2002042016  | A1   | 20020411 | US 2001-901569  | 20010711 |
|      | US 6537727     | B2   | 20030325 |                 |          |
|      | US 2004018442  | A1   | 20040129 | US 2003-349917  | 20030124 |
| PRAI | KR 2000-39562  | A    | 20000711 |                 |          |
|      | KR 2000-75485  | A    | 20001212 |                 |          |
|      | US 2001-901569 | A3   | 20010711 |                 |          |
| GI   |                |      |          |                 |          |



AB The compns. contain (A) photosensitive polymers comprising at least one

repeating unit selected from I and II (R1, R2 = H, alkyl, hydroxyalkyl, alkoxy, carbonyl, ester; x, y = 1-6) and at least one other repeating unit selected from (meth)acrylates, maleic anhydride, and norbornene and (B) photoacid generators. The photosensitive polymers may alternatively contain at least one repeating unit selected from III and IV (v, w = 1-6) instead of I or II. The photoresist compns. are useful for high-resolution lithog. using ArF excimer laser. Reduction of manufacturing cost and good adhesion

to primer layers are achieved with this invention.

IT 403986-97-0P 403986-98-1P 403986-99-2P  
403987-01-9P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(chemical amplified ArF-laser photoresist compns. having lactone-containing polymers with good dry etching resistance)

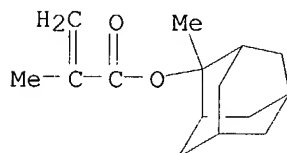
RN 403986-97-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester, polymer with 2,5-furandione and 5-methyl-2(3H)-furanone (9CI) (CA INDEX NAME)

CM 1

CRN 177080-67-0

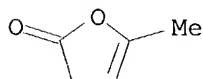
CMF C15 H22 O2



CM 2

CRN 591-12-8

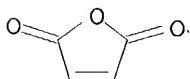
CMF C5 H6 O2



CM 3

CRN 108-31-6

CMF C4 H2 O3



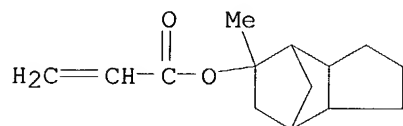
RN 403986-98-1 HCAPLUS

CN 2-Propenoic acid, octahydro-5-methyl-4,7-methano-1H-inden-5-yl ester, polymer with 2,5-furandione and 5-methyl-2(3H)-furanone (9CI) (CA INDEX NAME)

CM 1

CRN 348089-10-1

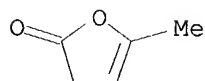
CMF C14 H20 O2



CM 2

CRN 591-12-8

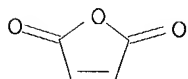
CMF C5 H6 O2



CM 3

CRN 108-31-6

CMF C4 H2 O3



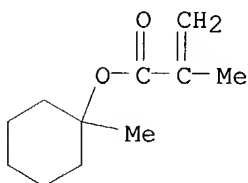
RN 403986-99-2 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1-methylcyclohexyl ester, polymer with 2,5-furandione and 5-methyl-2(3H)-furanone (9CI) (CA INDEX NAME)

CM 1

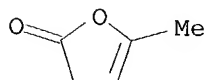
CRN 76392-14-8

CMF C11 H18 O2



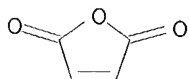
CM 2

CRN 591-12-8  
CMF C5 H6 O2



CM 3

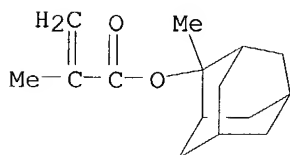
CRN 108-31-6  
CMF C4 H2 O3



RN 403987-01-9 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester,  
polymer with bicyclo[2.2.1]hept-2-ene, 2,5-furandione and  
5-methyl-2(3H)-furanone (9CI) (CA INDEX NAME)

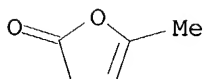
CM 1

CRN 177080-67-0  
CMF C15 H22 O2



CM 2

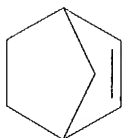
CRN 591-12-8  
CMF C5 H6 O2



CM 3

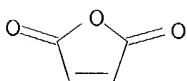


CRN 498-66-8  
CMF C7 H10



CM 4

CRN 108-31-6  
CMF C4 H2 O3



L109 ANSWER 36 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2002:119352 HCAPLUS

DN 136:175472

TI Positive photosensitive composition for photofabrication using deep UV ray

IN Kodama, Kunihiko; Aoai, Toshiaki

PA Fuji Photo Film Co., Ltd., Japan

SO Eur. Pat. Appl., 120 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

|      | PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE     |
|------|---|------|----------|-----------------|----------|
| PI   | EP 1179750  | A1   | 20020213 | EP 2001-117796  | 20010802 |
|      | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO |      |          |                 |          |
|      | JP 2002122994   | A2   | 20020426 | JP 2001-188670  | 20010621 |
|      | US 2002051933   | A1   | 20020502 | US 2001-921691  | 20010806 |
|      | US 6492091  | B2   | 20021210 |                 |          |
| PRAI | JP 2000-240059  | A    | 20000808 |                 |          |

AB A pos. photosensitive composition comprises: (A) a compound generating an acid upon irradiation with one of an actinic ray and radiation; (B) a resin containing

a monocyclic or polycyclic alicyclic hydrocarbon structure and increasing the solubility to an alkali developer by the action of an acid; and (C) an onium salt of carboxylic acid. The present invention relates to a pos. photosensitive composition for use in the production process of a semiconductor such as IC, in the production of a circuit board such as liquid crystal and thermal head, and in other photofabrication processes.

IT 398140-48-2P

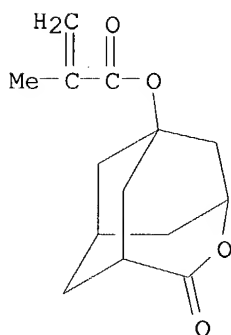
RL: PKP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(resin; deep UV photofabrication pos. photoresist composition containing)

RN 398140-48-2 HCAPLUS  
 CN 2-Propenoic acid, 2-methyl-, 3-[[[(5,5-dimethyl-3-oxo-1-cyclohexen-1-yl)oxy]sulfonyl]propyl ester, polymer with 2-ethyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl 2-methyl-2-propenoate, 5-oxo-4-oxatricyclo[4.3.1.1<sup>3,8</sup>]undec-1-yl 2-methyl-2-propenoate and tetrahydro-4,4-dimethyl-2-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

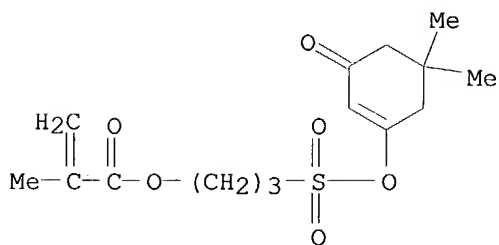
CM 1

CRN 348596-87-2  
 CMF C14 H18 O4



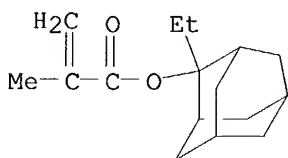
CM 2

CRN 289040-47-7  
 CMF C15 H22 O6 S



CM 3

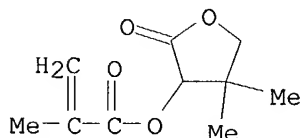
CRN 209982-56-9  
 CMF C16 H24 O2



CM 4

CRN 156938-13-5

CMF C10 H14 O4



RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L109 ANSWER 37 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2001:771033 HCAPLUS

DN 135:325256

TI Polymers containing oxygen and sulfur alicyclic units and photoresist compositions comprising same

IN Barclay, George G.; Yueh, Wang

PA Shipley Company, L.L.C., USA

SO U.S., 13 pp.

CODEN: USXXAM

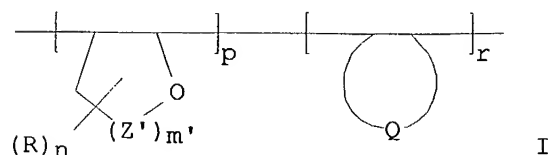
DT Patent

LA English

FAN.CNT 1

|      | PATENT NO.   | KIND | DATE     | APPLICATION NO. | DATE     |
|------|--|------|----------|-----------------|----------|
| PI   | US 6306554   | B1   | 20011023 | US 2000-567634  | 20000509 |
|      | WO 2001086353  | A1   | 20011115 | WO 2001-US14914 | 20010508 |
|      | W:   |      |          |                 |          |
|      | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM |      |          |                 |          |
|      | RW:  |      |          |                 |          |
|      | GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG   |      |          |                 |          |
| EP   | 1210650  | A1   | 20020605 | EP 2001-933209  | 20010508 |
|      | R:   |      |          |                 |          |
|      | AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR   |      |          |                 |          |
| JP   | 2003532933   | T2   | 20031105 | JP 2001-583242  | 20010508 |
| US   | 2003224282   | A1   | 20031204 | US 2001-927040  | 20010809 |
| US   | 6680159  | B2   | 20040120 |                 |          |
| US   | 2003073030   | A1   | 20030417 | US 2001-39340   | 20011231 |
| PRAI | US 2000-567634   | A2   | 20000509 |                 |          |
|      | WO 2001-US14914  | W    | 20010508 |                 |          |

GI



AB The invention includes polymers that contain a heterocyclic ring, preferably an oxygen- or sulfur-containing ring represented by I ( $Z' = O, S, C$ ;  $m' = 1-4$ ;  $Q$  = optionally substituted carbon alicyclic ring with two ring members being adjacent carbons of the polymer backbone;  $R$  = non-hydrogen substituent;  $n$  = integer  $> 0$ ;  $p$  = mole fraction of the fused oxygen ring units based on the total units in the polymer;  $r$  = mole fraction of the fused carbon units based on total units in the polymer;  $p$  and  $r > 0$ ). The heterocyclic ring is preferably fused to the polymer backbone. The invention also provides photoresists that contain such polymers, particularly for imaging at short wavelengths such as sub-200 nm.

IT **367925-26-6P**, 3,4-Dihydro-2-ethoxy-2H-pyran-maleic anhydride-2-methyladamantyl methacrylate-norbornene copolymer

**367925-27-7P**, 3,4-Dihydro-2-methoxy-2H-pyran-maleic anhydride-2-methyladamantyl methacrylate-norbornene copolymer

RL: **SPN (Synthetic preparation)**; **TEM (Technical or engineered material use)**; **PREP (Preparation)**; **USES (Uses)**

(preparation of heterocyclic resins for **photoresists** composition)

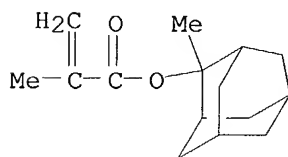
RN 367925-26-6 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester, polymer with bicyclo[2.2.1]hept-2-ene, 2-ethoxy-3,4-dihydro-2H-pyran and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 177080-67-0

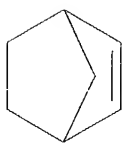
CMF C15 H22 O2



CM 2

CRN 498-66-8

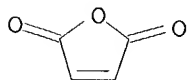
CMF C7 H10



CM 3

CRN 108-31-6

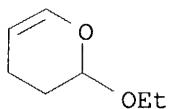
CMF C4 H2 O3



CM 4

CRN 103-75-3

CMF C7 H12 O2



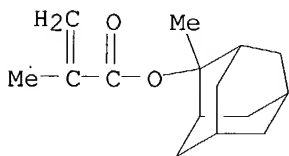
RN 367925-27-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester, polymer with bicyclo[2.2.1]hept-2-ene, 3,4-dihydro-2-methoxy-2H-pyran and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 177080-67-0

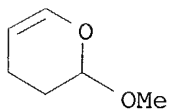
CMF C15 H22 O2



CM 2

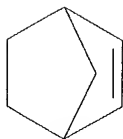
CRN 4454-05-1

CMF C6 H10 O2



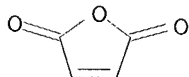
CM 3

CRN 498-66-8  
CMF C7 H10



CM 4

CRN 108-31-6  
CMF C4 H2 O3



RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L109 ANSWER 38 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2001:760380 HCAPLUS

DN 135:310933

TI Positive photoresists showing minimized dependency on pattern density for  
deep-UV photolithography

IN Kodama, Kunihiro; Sato, Kenichiro; Aogo, Toshiaki

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 77 pp.

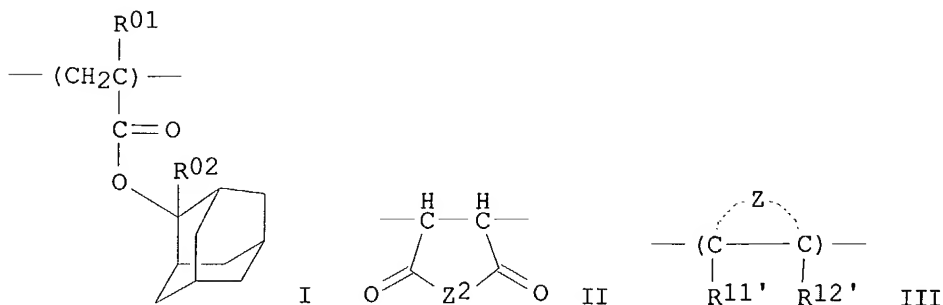
CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

|      | PATENT NO.        | KIND | DATE     | APPLICATION NO. | DATE     |
|------|-------------------|------|----------|-----------------|----------|
|      | -----             | ---  | -----    | -----           | -----    |
| PI   | JP 2001290276     | A2   | 20011019 | JP 2000-383801  | 20001218 |
| PRAI | JP 1999-358017    | A    | 19991216 |                 |          |
|      | JP 2000-28237     | A    | 20000204 |                 |          |
| OS   | MARPAT 135:310933 |      |          |                 |          |
| GI   |                   |      |          |                 |          |



AB The photoresists, for ultramicroolithog. utilizing  $\leq 220$ -nm actinic rays (especially ArF excimer lasers), comprise (A) photoacid generators RFSO3-X<sup>+</sup> [X = iodonium or sulfonium (Markush given); RF = C1-10 fluoroalkyl] where  $\geq 1$  pair of them satisfy difference in carbon number of RF moieties 2-8 and (B) C $\geq 6$ -alicyclic group-bearing acid-labile polymers. Suitable polymers consist of I [R01 = H, C1-4 alkyl; R02 = C1-4 alkyl; W = single bond, alkylene, (thio)ether, carbonyl, and/or ester] and [CH2:CR'01(CO2WLC)] (Ra-f = H, C1-4 alkyl essentially containing single bond or C1-4 alkylene; m, n = 0-3 integer; (m + n) = 2-6 integer). Other suitable polymers consist of (i) [CH(COXAR'1)CH(COXAR'2)] [R'1, R'2 = H, cyano, OH, etc.; X = O, S, NH, NHSO2, NHSO2NH; A = single bond, bivalent bridge] or II [Z2 = O, NR'3 [R'3 = H, OH, OSO2R'4 [R'4 = (halo)alkyl, cycloalkyl, camphor residue]]] and (ii) III [R'11, R'12 = H, cyano, halo, alkyl; Z = (substituted) alicyclic group]. The photoresists may contain N-containing basic compds. and/or F- and/or silicone-containing surfactants.

The

photoresists show high resolution and excellent pattern profile.

IT 332877-31-3P

RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(chemical-amplified deep-UV pos. photoresists containing fluoroalkylsulfonate salts as photoacid generators)

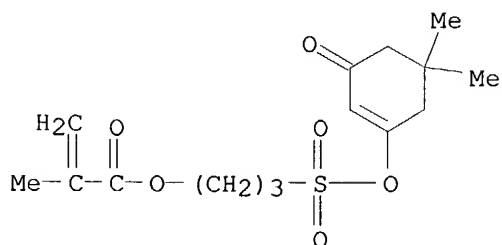
RN 332877-31-3 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-[[[(5,5-dimethyl-3-oxo-1-cyclohexen-1-yl)oxy]sulfonyl]propyl ester, polymer with 2-ethyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl 2-methyl-2-propenoate and tetrahydro-4,4-dimethyl-2-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

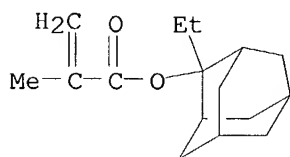
CRN 289040-47-7

CMF C15 H22 O6 S



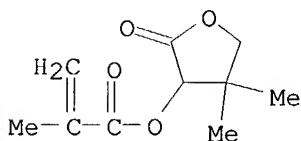
CM 2

CRN 209982-56-9  
CMF C16 H24 O2



CM 3

CRN 156938-13-5  
CMF C10 H14 O4



L109 ANSWER 39 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2001:579376 HCAPLUS

DN 135:172987

TI Positive-working chemically amplified photoresist composition containing carboxylic acids of low molecular weight

IN Kodama, Kunihiro; Sato, Kenichiro; Aogo, Toshiaki

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 36 pp.

CODEN: JKXXAF

DT Patent

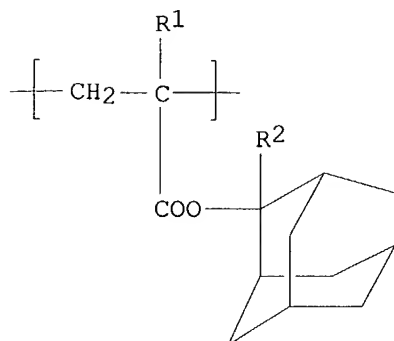
LA Japanese

FAN.CNT 1

|      | PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE     |
|------|---------------|------|----------|-----------------|----------|
| PI   | JP 2001215709 | A2   | 20010810 | JP 2000-29257   | 20000207 |
| PRAI | JP 2000-29257 |      | 20000207 |                 |          |
| GI   |               |      |          |                 |          |

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505





I

AB The title composition contains an acid-sensitive resin which increases the dissoln. rate on reacting with an acid, and a photoacid generator, wherein  $\leq 2,000$  mol. weight carboxylic acid is added to the composition. The resin has repeating units I and  $[-CH_2-C(R_1)(COO-W-Lc)-]$  ( $R_1 = H, Me, Lc = \gamma$ -lactone derivative;  $R_2 = C1-4$  alkyl;  $W =$  single bond, alkylene, ether, thioether, etc.). The resist composition, which the low mol. weight carboxylic acids, provides the high sensitivity, the high resolution, the reduced residue of the development using the acid-sensitive resin.

IT 332877-31-3P

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(acid-sensitive resin in pos.-working chemical amplified photoresist composition)

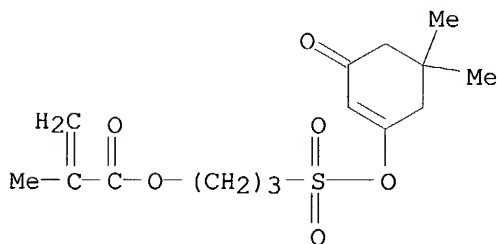
RN 332877-31-3 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-[[[(5,5-dimethyl-3-oxo-1-cyclohexen-1-yl)oxy]sulfonyl]propyl ester, polymer with 2-ethyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl 2-methyl-2-propenoate and tetrahydro-4,4-dimethyl-2-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 289040-47-7

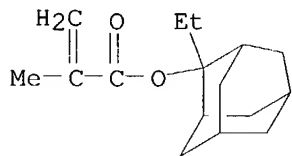
CMF C15 H22 O6 S



CM 2

CRN 209982-56-9

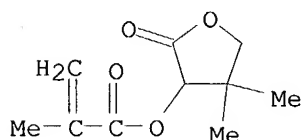
CMF C16 H24 O2



CM 3

CRN 156938-13-5

CMF C10 H14 O4



L109 ANSWER 40 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2001:534446 HCAPLUS

DN 135:129569

TI Chemically amplified photoresist compositions containing alkyl vinyl ether polymers for ArF excimer laser exposure

IN Choi, Sang Joon; Kim, Hyun Woo

PA Samsung Electronics Co., Ltd., S. Korea

SO Jpn. Kokai Tokkyo Koho, 21 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 3

|      | PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE     |
|------|---|------|----------|-----------------|----------|
| PI   | JP 2001200016   | A2   | 20010724 | JP 2001-12171   | 20010119 |
|      | EP 1120689  | A2   | 20010801 | EP 2001-300418  | 20010118 |
|      | EP 1120689  | A3   | 20010808 |                 |          |
|      | R: AT, BE, CH, DE, DK, ES, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO |      |          |                 |          |
| PRAI | KR 2000-2489  | A    | 20000119 |                 |          |
|      | KR 2000-20603   | A    | 20000419 |                 |          |
| GI   |   |      |          |                 |          |

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB The compns. comprise (a1) alkyl vinyl ether-maleic anhydride copolymers (Mw 3000-100,000) I [X = Q1, Q2 [y = 1-4; R1 = H, Me; R2 = C1-20 hydrocarbyl; R3 = H, C1-3 alkyl(oxy)]], (a2) photosensitive terpolymers bearing acid-labile or polar groups, (c) photoacid generators, and optional organic bases. Further claimed are photosensitive polymers represented by II [X, y, R1-3 = the same definitions as above; R4, R5 = H,

C1-25 aliphatic hydrocarbyl; R6 = H, Me; R7 = acid-labile C2-20 hydrocarbyl; n/(m + n + o) 0.1-0.7; o/(m + n + o) 0.1-0.7]. The compns. show good adhesion to undercoat layers in photolithog. and excellent dry-etching resistance.

IT 350992-58-4P

RL: PNU (Preparation, unclassified); **PREP (Preparation)**  
(chemical amplified **photoresists** containing alkyl vinyl ether  
polymers for ArF excimer laser exposure)

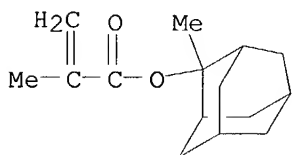
RN 350992-58-4 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester,  
polymer with bicyclo[2.2.1]hept-2-ene, 3,4-dihydro-2H-pyran and  
2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 177080-67-0

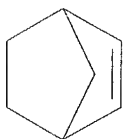
CMF C15 H22 O2



CM 2

CRN 498-66-8

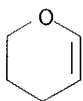
CMF C7 H10



CM 3

CRN 110-87-2

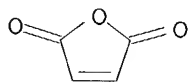
CMF C5 H8 O



CM 4

CRN 108-31-6

CMF C4 H2 O3



IT 328061-11-6P 328061-12-7P 350992-38-0P  
 350992-41-5P 350992-42-6P 350992-44-8P  
 350992-51-7P 350992-53-9P

RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)  
 (chemical amplified **photoresists** containing alkyl vinyl ether polymers for ArF excimer laser exposure)

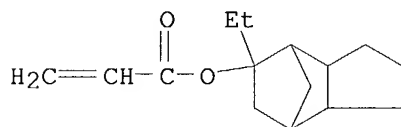
RN 328061-11-6 HCAPLUS

CN 2-Propenoic acid, 5-ethyloctahydro-4,7-methano-1H-inden-5-yl ester, polymer with 3,4-dihydro-2H-pyran and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 307495-75-6

CMF C15 H22 O2



CM 2

CRN 110-87-2

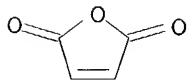
CMF C5 H8 O



CM 3

CRN 108-31-6

CMF C4 H2 O3



RN 328061-12-7 HCAPLUS

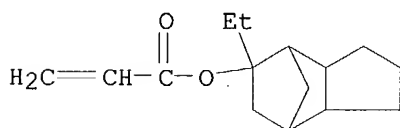
CN 2-Propenoic acid, 5-ethyloctahydro-4,7-methano-1H-inden-5-yl ester,

polymer with 2-ethoxy-3,4-dihydro-2H-pyran and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 307495-75-6

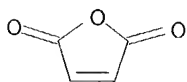
CMF C15 H22 O2



CM 2

CRN 108-31-6

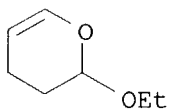
CMF C4 H2 O3



CM 3

CRN 103-75-3

CMF C7 H12 O2



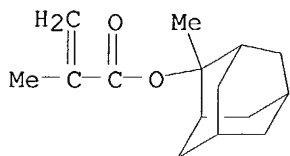
RN 350992-38-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester, polymer with 3,4-dihydro-2H-pyran and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 177080-67-0

CMF C15 H22 O2



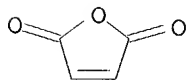
CM 2

CRN 110-87-2  
CMF C5 H8 O



CM 3

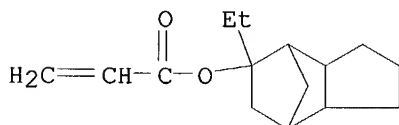
CRN 108-31-6  
CMF C4 H2 O3



RN 350992-41-5 HCAPLUS  
CN 2-Propenoic acid, 5-ethyloctahydro-4,7-methano-1H-inden-5-yl ester,  
polymer with 2-(ethenyloxy)ethanol and 2,5-furandione (9CI) (CA INDEX  
NAME)

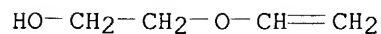
CM 1

CRN 307495-75-6  
CMF C15 H22 O2



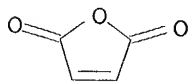
CM 2

CRN 764-48-7  
CMF C4 H8 O2



CM 3

CRN 108-31-6  
CMF C4 H2 O3

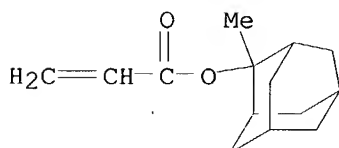


RN 350992-42-6 HCAPLUS  
CN 2-Propenoic acid, 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester, polymer with  
3,4-dihydro-2H-pyran and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 249562-06-9

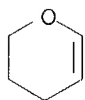
CMF C14 H20 O2



CM 2

CRN 110-87-2

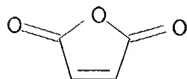
CMF C5 H8 O



CM 3

CRN 108-31-6

CMF C4 H2 O3

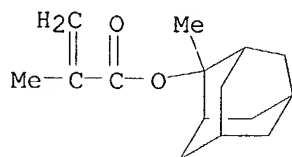


RN 350992-44-8 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester,  
polymer with 2-ethoxy-3,4-dihydro-2H-pyran and 2,5-furandione (9CI) (CA  
INDEX NAME)

CM 1

CRN 177080-67-0

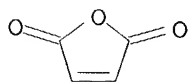
CMF C15 H22 O2



CM 2

CRN 108-31-6

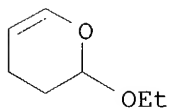
CMF C4 H2 O3



CM 3

CRN 103-75-3

CMF C7 H12 O2



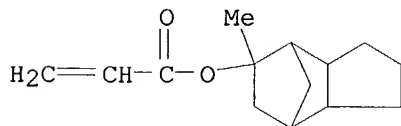
RN 350992-51-7 HCAPLUS

CN 2-Propenoic acid, octahydro-5-methyl-4,7-methano-1H-inden-5-yl ester, polymer with 1-(ethenyloxy)butane and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 348089-10-1

CMF C14 H20 O2

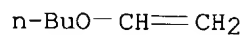


CM 2

CRN 111-34-2

CMF C6 H12 O

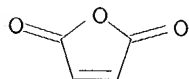




CM 3

CRN 108-31-6

CMF C4 H2 O3



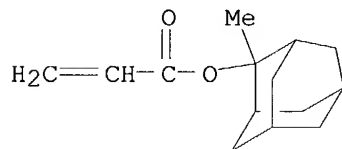
RN 350992-53-9 HCAPLUS

CN 2-Propenoic acid, 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester, polymer with 1-(ethenyloxy)butane and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 249562-06-9

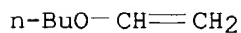
CMF C14 H20 O2



CM 2

CRN 111-34-2

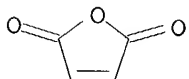
CMF C6 H12 O



CM 3

CRN 108-31-6

CMF C4 H2 O3

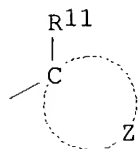


L109 ANSWER 41 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2001:62631 HCAPLUS

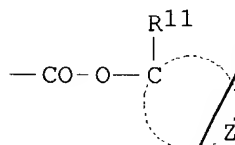
KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

DN 134:123583  
 TI Positive-working photoresist composition for far ultraviolet ray exposure  
 IN Sato, Kenichiro; Kawabe, Yasumasa  
 PA Fuji Photo Film Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 44 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 5

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | JP 2001022072  | A2   | 20010126 | JP 1999-193603  | 19990707 |
|      | US 6596458     | B1   | 20030722 | US 2000-563436  | 20000503 |
| PRAI | JP 1999-127296 | A    | 19990507 |                 |          |
|      | JP 1999-186607 | A    | 19990630 |                 |          |
|      | JP 1999-193601 | A    | 19990707 |                 |          |
|      | JP 1999-193602 | A    | 19990707 |                 |          |
|      | JP 1999-193603 | A    | 19990707 |                 |          |
| GI   |                |      |          |                 |          |



I



II

AB The title composition contains (a) a compound generating an acid by actinic ray or radiation irradiation, (b) a resin which has  $\geq 1$  repeating unit selected from the following (i), (ii), and (iii) and is cleaved by the action of acid to increase the solubility to alkali, and (c) a mixed solvent containing (1) heptanone and (2)  $\gamma$ -butyrolactone, ethylene carbonate, and/or propylene carbonate. (i) a repeating unit having alkali-soluble groups protected with  $\geq 1$  group selected from alicyclic hydrocarbon structure-containing groups I, CR12R13R14, CH(OR15)R16, CR19R21CR17:CR18R20, CR22R25CHR23COR24, and II (R11 = Me, Et, Pr, iso-Pr, Bu, iso-Bu, sec-Bu; Z = atoms required to form an alicyclic hydrocarbon group along with the C atom; R12-16 = C1-4 straight-chain or branched alkyl, alicyclic hydrocarbon,  $\geq 1$  of R12-14 or either R15 or R16 is alicyclic hydrocarbon; R17-21 = H, C1-4 straight-chain or branched alkyl, alicyclic hydrocarbon,  $\geq 1$  of R17-21 is alicyclic hydrocarbon and either R19 or R21 is C1-4 straight-chain or branched alkyl or alicyclic hydrocarbon; R22-25 = C1-4 straight-chain or branched alkyl, alicyclic hydrocarbon,  $\geq 1$  of R22-25 is alicyclic hydrocarbon). (ii) a repeating unit CH2CR1(CO2X1Lc) (R1 = H, halo, C1-4 straight-chain or branched alkyl; X1 = divalent linking group; Lc = lactone group). (iii)  $\geq 1$  repeating unit selected from CH2CR1(CO2H), CH2CR1X2OCR30R32CR31R33O(CR34R35CR36R37O)mR, CH2CR1(Z1R38AR39), and CH2CR1(CO2R40SO2OR41) [R1 = H, halo, C1-4 straight-chain or branched alkyl; R30-37 = H, (substituted) alkyl; R = H, alkyl, cyclic alkyl, aryl, aralkyl (these groups may be substituted); m = 1-10; X2 = single bond, alkylene, cyclic alkylene, arylene, divalent group which is composed of  $\geq 1$  of ether, thioether, carbonyl, ester, amide, sulfonamide, urethane, and urea groups and is not cleaved by the action of acid; Z1 = single bond, ether, ester, amide, alkylene, divalent group composed of these groups; R38 = single bond, alkylene, arylene, divalent group composed of these groups; R40 = alkylene, arylene, divalent

group composed of these groups; R39 = alkyl, cyclic alkyl, aryl, aralkyl (these groups may be substituted); R41 = H, alkyl, cyclic alkyl, alkenyl, aryl, aralkyl (these groups may be substituted); A = CONHSO<sub>2</sub>, SO<sub>2</sub>NHCO, NHCONHSO<sub>2</sub>, SO<sub>2</sub>NHCONH, OCONHSO<sub>2</sub>, SO<sub>2</sub>NHCO<sub>2</sub>, SO<sub>2</sub>NHSO<sub>2</sub>]. The resist shows high sensitivity toward far UV rays, especially ArF excimer laser beams and the resist solution exhibits improved storage stability.

IT 320779-41-7P

RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(photoresist composition containing acid generator, alkali-soluble resin., and solvent)

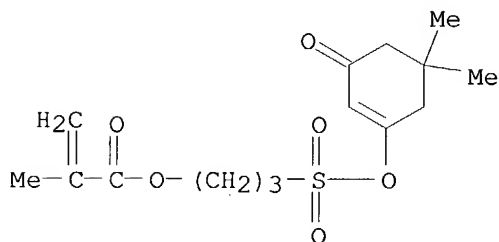
RN 320779-41-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-[[[(5,5-dimethyl-3-oxo-1-cyclohexen-1-yl)oxy]sulfonyl]propyl ester, polymer with 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl 2-methyl-2-propenoate and tetrahydro-4,4-dimethyl-2-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 289040-47-7

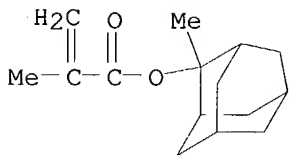
CMF C15 H22 O6 S



CM 2

CRN 177080-67-0

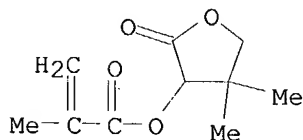
CMF C15 H22 O2



CM 3

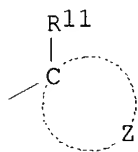
CRN 156938-13-5

CMF C10 H14 O4

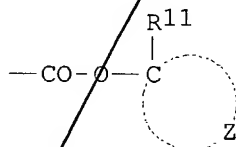


L109 ANSWER 42 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STM  
 AN 2001:62630 HCAPLUS  
 DN 134:123582  
 TI Positive-working photoresist composition for far ultraviolet ray exposure  
 IN Sato, Kenichiro; Kawabe, Yasumasa  
 PA Fuji Photo Film Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 44 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 5

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | JP 2001022071  | A2   | 20010126 | JP 1999-193602  | 19990707 |
|      | US 6596458     | B1   | 20030722 | US 2000-563436  | 20000503 |
| PRAI | JP 1999-127296 | A    | 19990507 |                 |          |
|      | JP 1999-186607 | A    | 19990630 |                 |          |
|      | JP 1999-193601 | A    | 19990707 |                 |          |
|      | JP 1999-193602 | A    | 19990707 |                 |          |
|      | JP 1999-193603 | A    | 19990707 |                 |          |
| GI   |                |      |          |                 |          |



I



II

AB The title composition contains (a) a compound generating an acid by actinic ray or radiation irradiation, (b) a resin which has  $\geq 1$  repeating unit selected from the following (i), (ii), and (iii) and is cleaved by the action of acid to increase the solubility to alkali, and (c) a mixed solvent containing (1) propyleneglycol monomethyl ether acetate or propyleneglycol monomethyl ether propionate and (2)  $\gamma$ -butyrolactone, ethylene carbonate, and/or propylene carbonate. (i) a repeating unit having alkali-soluble groups protected with  $\geq 1$  group selected from alicyclic hydrocarbon structure-containing groups I, CR12R13R14, CH(OR15)R16, CR19R21CR17:CR18R20, CR22R25CHR23COR24, and II (R11 = Me, Et, Pr, iso-Pr, Bu, iso-Bu, sec-Bu; Z = atoms required to form an alicyclic hydrocarbon group along with the C atom; R12-16 = C1-4 straight-chain or branched alkyl, alicyclic hydrocarbon,  $\geq 1$  of R12-14 or either R15 or R16 is alicyclic hydrocarbon; R17-21 = H, C1-4 straight-chain or branched alkyl, alicyclic hydrocarbon,  $\geq 1$  of R17-21 is alicyclic hydrocarbon and either R19 or R21 is C1-4 straight-chain or branched alkyl or alicyclic hydrocarbon; R22-25 = C1-4 straight-chain or branched alkyl, alicyclic hydrocarbon,  $\geq 1$  of R22-25 is alicyclic hydrocarbon). (ii) a

repeating unit CH<sub>2</sub>CR<sub>1</sub>(CO<sub>2</sub>X<sub>1</sub>Lc) (R<sub>1</sub> = H, halo, C1-4 straight- chain or branched alkyl; X<sub>1</sub> = divalent linking group; Lc = lactone group). (iii) ≥1 repeating unit selected from CH<sub>2</sub>CR<sub>1</sub>(CO<sub>2</sub>H), CH<sub>2</sub>CR<sub>1</sub>X<sub>2</sub>OCR<sub>3</sub>OR<sub>3</sub>2CR<sub>3</sub>1R<sub>3</sub>33O(CR<sub>3</sub>4R<sub>3</sub>5CR<sub>3</sub>6R<sub>3</sub>7O)mR, CH<sub>2</sub>CR<sub>1</sub>(Z<sub>1</sub>R<sub>3</sub>8AR<sub>3</sub>9), and CH<sub>2</sub>CR<sub>1</sub>(CO<sub>2</sub>R<sub>4</sub>0SO<sub>2</sub>OR<sub>4</sub>1) [R<sub>1</sub> = H, halo, C1-4 straight-chain or branched alkyl; R<sub>3</sub>0-37 = H, (substituted) alkyl; R = H, alkyl, cyclic alkyl, aryl, aralkyl (these groups may be substituted); m = 1-10; X<sub>2</sub> = single bond, alkylene, cyclic alkylene, arylene, divalent group which is composed of ≥1 of ether, thioether, carbonyl, ester, amide, sulfonamide, urethane, and urea groups and is not cleaved by the action of acid; Z<sub>1</sub> = single bond, ether, ester, amide, alkylene, divalent group composed of these groups; R<sub>3</sub>8 = single bond, alkylene, arylene, divalent group composed of these groups; R<sub>4</sub>0 = alkylene, arylene, divalent group composed of these groups; R<sub>3</sub>9 = alkyl, cyclic alkyl, aryl, aralkyl (these groups may be substituted); R<sub>4</sub>1 = H, alkyl, cyclic alkyl, alkenyl, aryl, aralkyl (these groups may be substituted); A = CONHSO<sub>2</sub>, SO<sub>2</sub>NHCO, NHCONHSO<sub>2</sub>, SO<sub>2</sub>NHCONH, OCONHSO<sub>2</sub>, SO<sub>2</sub>NHCO<sub>2</sub>, SO<sub>2</sub>NHSO<sub>2</sub>]. The resist shows high sensitivity toward far UV rays, especially ArF excimer laser beams and the resist solution exhibits improved storage stability.

IT 320779-41-7P

RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)

(photoresist composition containing acid generator, alkali-soluble resin., and solvent)

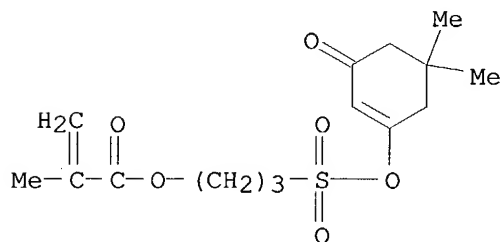
RN 320779-41-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-[[[(5,5-dimethyl-3-oxo-1-cyclohexen-1-yl)oxy]sulfonyl]propyl ester, polymer with 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl 2-methyl-2-propenoate and tetrahydro-4,4-dimethyl-2-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 289040-47-7

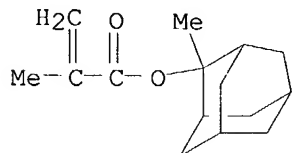
CMF C15 H22 O6 S



CM 2

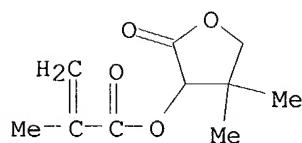
CRN 177080-67-0

CMF C15 H22 O2



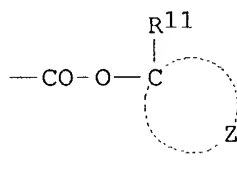
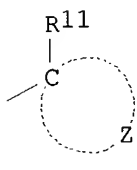
CM 3

CRN 156938-13-5  
CMF C10 H14 O4



L109 ANSWER 43 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2001:62629 HCAPLUS  
DN 134:123581  
TI Positive-working photoresist composition for far ultraviolet ray exposure  
IN Sato, Kenichiro; Kawabe, Yasumasa  
PA Fuji Photo Film Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 44 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
FAN.CNT 5

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | JP 2001022070  | A2   | 20010126 | JP 1999-193601  | 19990707 |
|      | US 6596458     | B1   | 20030722 | US 2000-563436  | 20000503 |
| PRAI | JP 1999-127296 | A    | 19990507 |                 |          |
|      | JP 1999-186607 | A    | 19990630 |                 |          |
|      | JP 1999-193601 | A    | 19990707 |                 |          |
|      | JP 1999-193602 | A    | 19990707 |                 |          |
|      | JP 1999-193603 | A    | 19990707 |                 |          |
| GI   |                |      |          |                 |          |



AB The title composition contains (a) a compound generating an acid by actinic ray or radiation irradiation, (b) a resin which has  $\geq 1$  repeating unit selected from the following (i), (ii), and (iii) and is cleaved by the

action of acid to increase the solubility to alkali, and (c) a mixed solvent containing heptanone and  $\geq 1$  selected from Et lactate, propyleneglycol monomethylether, and ethoxyethyl propionate. (i) a repeating unit having alkali-soluble groups protected with  $\geq 1$  group selected from alicyclic hydrocarbon structure-containing groups I, CR12R13R14, CH(OR15)R16, CR19R21CR17:CR18R20, CR22R25CHR23COR24, and II (R11 = Me, Et, Pr, iso-Pr, Bu, iso-Bu, sec-Bu; Z = atoms required to form an alicyclic hydrocarbon group along with the C atom; R12-16 = C1-4 straight-chain or branched alkyl, alicyclic hydrocarbon,  $\geq 1$  of R12-14 or either R15 or R16 is alicyclic hydrocarbon; R17-21 = H, C1-4 straight-chain or branched alkyl, alicyclic hydrocarbon,  $\geq 1$  of R17-21 is alicyclic hydrocarbon and either R19 or R21 is C1-4 straight-chain or branched alkyl or alicyclic hydrocarbon; R22-25 = C1-4 straight-chain or branched alkyl, alicyclic hydrocarbon,  $\geq 1$  of R22-25 is alicyclic hydrocarbon). (ii) a repeating unit CH2CR1(CO2X1Lc) (R1 = H, halo, C1-4 straight-chain or branched alkyl; X1 = divalent linking group; Lc = lactone group). (iii)  $\geq 1$  repeating unit selected from CH2CR1(CO2H), CH2CR1X2OCR3OR32CR31R33O(CR34R35CR36R37O)mR, CH2CR1(Z1R38AR39), and CH2CR1(CO2R40SO2OR41) [R1 = H, halo, C1-4 straight-chain or branched alkyl; R30-37 = H, (substituted) alkyl; R = H, alkyl, cyclic alkyl, aryl, aralkyl (these groups may be substituted); m = 1-10; X2 = single bond, alkylene, cyclic alkylene, arylene, divalent group which is composed of  $\geq 1$  of ether, thioether, carbonyl, ester, amide, sulfonamide, urethane, and urea groups and is not cleaved by the action of acid; Z1 = single bond, ether, ester, amide, alkylene, divalent group composed of these groups; R38 = single bond, alkylene, arylene, divalent group composed of these groups; R40 = alkylene, arylene, divalent group composed of these groups; R39 = alkyl, cyclic alkyl, aryl, aralkyl (these groups may be substituted); R41 = H, alkyl, cyclic alkyl, alkenyl, aryl, aralkyl (these groups may be substituted); A = CONHSO2, SO2NHCO, NHCONHSO2, SO2NHCONH, OCONHSO2, SO2NHCO2, SO2NHSO2]. The resist shows high resolution toward far UV rays, especially ArF excimer laser beams, and improved edge roughness.

## IT 320779-41-7P

RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)

(photoresist composition containing acid generator, alkali-soluble resin., and solvent)

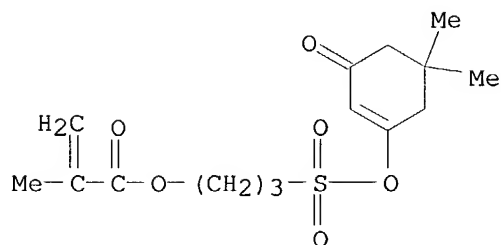
RN 320779-41-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-[[[(5,5-dimethyl-3-oxo-1-cyclohexen-1-yl)oxy]sulfonyl]propyl ester, polymer with 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl 2-methyl-2-propenoate and tetrahydro-4,4-dimethyl-2-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

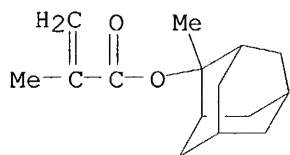
CRN 289040-47-7

CMF C15 H22 O6 S



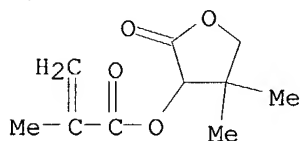
CM 2

CRN 177080-67-0  
CMF C15 H22 O2



CM 3

CRN 156938-13-5  
CMF C10 H14 O4



L109 ANSWER 44 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2001:46104 HCAPLUS

DN 134:123570

TI Positive-working photoresist composition for far ultraviolet ray exposure

IN Sato, Kenichiro; Kawabe, Yasumasa

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 41 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 5

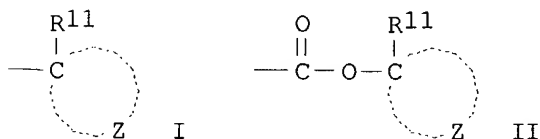
|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | JP 2001013686  | A2   | 20010119 | JP 1999-186607  | 19990630 |
|      | US 6596458     | B1   | 20030722 | US 2000-563436  | 20000503 |
| PRAI | JP 1999-127296 | A    | 19990507 |                 |          |
|      | JP 1999-186607 | A    | 19990630 |                 |          |

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505



JP 1999-193601 A 19990707  
 JP 1999-193602 A 19990707  
 JP 1999-193603 A 19990707

GI



AB The title composition contains (a) a compound generating an acid by actinic ray or radiation irradiation, (b) a resin which has  $\geq 1$  repeating unit selected from the following (i), (ii), and (iii) and is cleaved by the action of acid to increase the solubility to alkali, and (c) a mixed solvent containing propyleneglycol monomethylether acetate or propionate and  $\geq 1$  selected from Et lactate, propyleneglycol monomethylether, and ethoxyethyl propionate. (i) a repeating unit having alkali-soluble groups protected with  $\geq 1$  group selected from alicyclic hydrocarbon structure-containing groups I, CR12R13R14, CH(OR15)R16, CR19R21CR17:CR18R20, CR22R25CHR23COR24, and II (R11 = Me, Et, Pr, iso-Pr, Bu, iso-Bu, sec-Bu; Z = atoms required to form an alicyclic hydrocarbon group along with the C atom; R12-16 = C1-4 straight-chain or branched alkyl, alicyclic hydrocarbon,  $\geq 1$  of R12-14 or either R15 or R16 is alicyclic hydrocarbon; R17-21 = H, C1-4 straight-chain or branched alkyl, alicyclic hydrocarbon,  $\geq 1$  of R17-21 is alicyclic hydrocarbon and either R19 or R21 is C1-4 straight-chain or branched alkyl or alicyclic hydrocarbon; R22-25 = C1-4 straight-chain or branched alkyl, alicyclic hydrocarbon,  $\geq 1$  of R22-25 is alicyclic hydrocarbon). (ii) a repeating unit CH2CR1(CO2X1Lc)(R1 = H, halo, C1-4 straight-chain or branched alkyl; X1 = divalent linking group; Lc = lactone group). (iii)  $\geq 1$  repeating unit selected from CH2CR1(CO2H), CH2CR1X2OCR30R32CR31R33O(CR34R35CR36R37O)mR, CH2CR1(Z1R38AR39), and CH2CR1(CO2R40SO2OR41) [R1 = H, halo, C1-4 straight-chain or branched alkyl; R30-37 = H, (substituted) alkyl; R = H, alkyl, cyclic alkyl, aryl, aralkyl (these groups may be substituted); m = 1-10; X2 = single bond, alkylene, cyclic alkylene, arylene, divalent group which is composed of  $\geq 1$  of ether, thioether, carbonyl, ester, amide, sulfonamide, urethane, and urea groups and is not cleaved by the action of acid; Z1 = single bond, ether, ester, amide, alkylene, divalent group composed of these groups; R38 = single bond, alkylene, arylene, divalent group composed of these groups; R40 = alkylene, arylene, divalent group composed of these groups; R39 = alkyl, cyclic alkyl, aryl, aralkyl (these groups may be substituted); R41 = H, alkyl, cyclic alkyl, alkenyl, aryl, aralkyl (these groups may be substituted); A = CONHSO2, SO2NHCO, NHCONHSO2, SO2NHCONH, OCONHSO2, SO2NHCO2, SO2NHSO2]. The resist shows high sensitivity toward far UV rays, especially ArF excimer laser beams and the resist solution exhibits improved storage stability.

IT 320779-41-7P

RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (photoresist composition containing acid generator, alkali-soluble resin., and solvent)

RN 320779-41-7 HCAPLUS

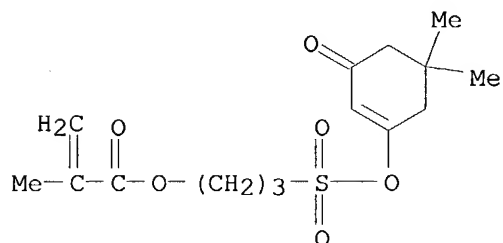
CN 2-Propenoic acid, 2-methyl-, 3-[[[5,5-dimethyl-3-oxo-1-cyclohexen-1-yl)oxy)sulfonyl]propyl ester, polymer with 2-methyltricyclo[3.3.1.1.3,7]dec-2-yl 2-methyl-2-propenoate and tetrahydro-4,4-dimethyl-2-oxo-3-furanyl

2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 289040-47-7

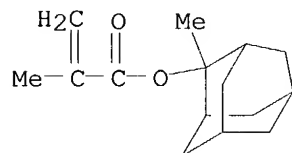
CMF C15 H22 O6 S



CM 2

CRN 177080-67-0

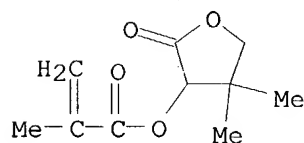
CMF C15 H22 O2



CM 3

CRN 156938-13-5

CMF C10 H14 O4



L109 ANSWER 45 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2000:877012 HCAPLUS  
 DN 134:63889  
 TI Far-UV positive-working photoresist composition  
 IN Sato, Kenichiro; Kodama, Kunihiro; Aogo, Toshiaki  
 PA Fuji Photo Film Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 45 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese

FAN.CNT 8

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | JP 2000347409  | A2   | 20001215 | JP 1999-158695  | 19990604 |
|      | US 6479211     | B1   | 20021112 | US 2000-577884  | 20000525 |
| PRAI | JP 1999-146774 | A    | 19990526 |                 |          |
|      | JP 1999-146775 | A    | 19990526 |                 |          |
|      | JP 1999-150215 | A    | 19990528 |                 |          |
|      | JP 1999-152860 | A    | 19990531 |                 |          |
|      | JP 1999-152861 | A    | 19990531 |                 |          |
|      | JP 1999-152862 | A    | 19990531 |                 |          |
|      | JP 1999-158693 | A    | 19990604 |                 |          |
|      | JP 1999-158695 | A    | 19990604 |                 |          |

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB The far-UV pos.-working photoresist composition comprises a photoacid represented by I or II (R1-5 = H, alkyl, etc.; p, q, n1 = 1-5; m, n = 0-5; X = counter ion) and a resin which has repeating unit of III (Rb1-b4 = substituent) and increases its solubility in an alkaline developer upon reaction with an acid. This photoresist composition was particularly suited for  $\leq 220\text{nm}$  exposure.

IT 312616-52-7P

RL: **SPN (Synthetic preparation)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)  
(far-UV pos.-working photoresist composition from)

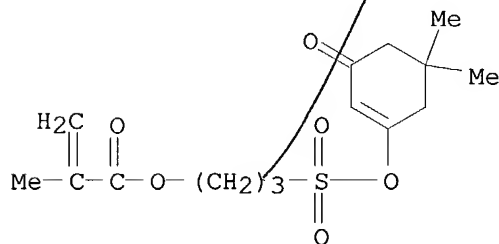
RN 312616-52-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-[[[(5,5-dimethyl-3-oxo-1-cyclohexen-1-yl)oxy]sulfonyl]propyl ester, polymer with 3-hydroxytricyclo[3.3.1.1<sup>3,7</sup>]dec-1-yl 2-methyl-2-propenoate and tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 289040-47-7

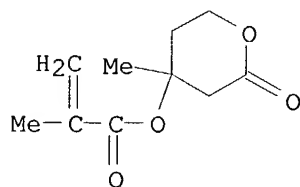
CMF C15 H22 O6 S



CM 2

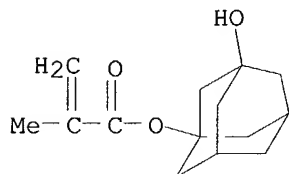
CRN 177080-66-9

CMF C10 H14 O4



CM 3

CRN 115372-36-6  
CMF C14 H20 O3



L109 ANSWER 46 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2000:877011 HCAPLUS

DN 134:63888

TI Positive-working chemical amplification photoresist composition for far-ultraviolet ray exposure

IN Sato, Kenichiro; Kodama, Kunihiko; Aogo, Toshiaki

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 52 pp.

CODEN: JKXXAF

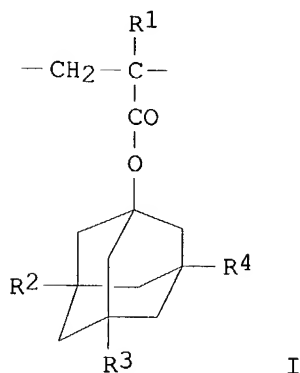
DT Patent

LA Japanese

FAN.CNT 8

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | JP 2000347408  | A2   | 20001215 | JP 1999-158693  | 19990604 |
|      | US 6479211     | B1   | 20021112 | US 2000-577884  | 20000525 |
| PRAI | JP 1999-146774 | A    | 19990526 |                 |          |
|      | JP 1999-146775 | A    | 19990526 |                 |          |
|      | JP 1999-150215 | A    | 19990528 |                 |          |
|      | JP 1999-152860 | A    | 19990531 |                 |          |
|      | JP 1999-152861 | A    | 19990531 |                 |          |
|      | JP 1999-152862 | A    | 19990531 |                 |          |
|      | JP 1999-158693 | A    | 19990604 |                 |          |
|      | JP 1999-158695 | A    | 19990604 |                 |          |

GI



AB A pos.-working photoresist containing (A) a compound generating an acid upon irradiation with active ray or radioactive ray, (B) a resin having a repeating unit (I; R1 = H, halo, C1-4 linear or branched alkyl; R2 - R4 = H or OH, provided that at least one of R2 - R4 is OH) and decomposing upon reaction with an acid to increase the solubility in an alkali developer, and (C) a compound generating sulfonic acid is described. This photoresist decreases the development of defects or the formation of scums when using an exposure source of 150 nm wavelength, in particular  $\leq 220$  nm, and improves microlithog. (photolithog.) process of LSI and microchips using far-UV ray such as excimer laser beam.

IT 312616-52-7P

RL: **SPN (Synthetic preparation)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)  
(pos.-working chemical amplification **photoresist** composition for far-UV ray exposure)

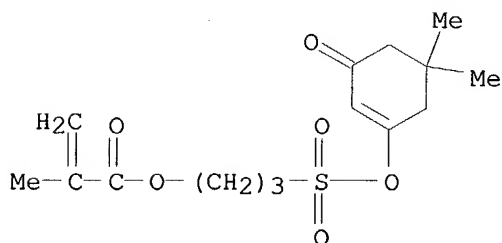
RN 312616-52-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-[[[(5,5-dimethyl-3-oxo-1-cyclohexen-1-yl)oxy]sulfonyl]propyl ester, polymer with 3-hydroxytricyclo[3.3.1.1.3,7]dec-1-yl 2-methyl-2-propenoate and tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl 2-methyl-2-propenoate. (9CI) (CA INDEX NAME).

CM 1

CRN 289040-47-7

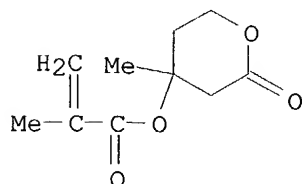
CMF C15 H22 O6 S



CM 2

CRN 177080-66-9

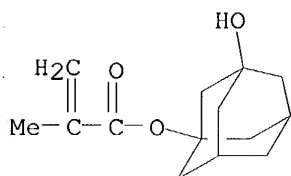
CMF C10 H14 O4



CM 3

CRN 115372-36-6

CMF C14 H20 O3



L109 ANSWER 47 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2000:863764 HCAPLUS

DN 134:49207

TI Argon fluoride excimer laser-sensitive positive-working photoresist composition

IN Sato, Kenichiro; Nakao, Hajime; Aogo, Toshiaki

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 46 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 8

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | JP 2000338681  | A2   | 20001208 | JP 1999-152862  | 19990531 |
|      | US 6479211     | B1   | 20021112 | US 2000-577884  | 20000525 |
| PRAI | JP 1999-146774 | A    | 19990526 |                 |          |
|      | JP 1999-146775 | A    | 19990526 |                 |          |
|      | JP 1999-150215 | A    | 19990528 |                 |          |
|      | JP 1999-152860 | A    | 19990531 |                 |          |
|      | JP 1999-152861 | A    | 19990531 |                 |          |
|      | JP 1999-152862 | A    | 19990531 |                 |          |
|      | JP 1999-158693 | A    | 19990604 |                 |          |
|      | JP 1999-158695 | A    | 19990604 |                 |          |

AB The title composition contains an acid-generating compound, a resin sensitive to an acid to become soluble in an alkali, and a solvent. The resin has a specific repeating unit containing an adamantane structure. The solvent contains 60-90 % of Et lactate, propylene glycol monomethyl ether acetate, propylene glycol monomethyl ether propionate, Me 3-methoxypropionate, Et

3-methoxypropionate, or 2-heptanone. The solvent also contains 10-40 % of a solvent having  $\leq 1$  cPs at 20 °C. The composition provides the high sensitivity, the high resolution, the excellent dry-etching resistance, the strong contact to the substrate.

IT 312616-52-7P

RL: **SPN (Synthetic preparation)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)  
(resin in argon fluoride excimer laser-sensitive pos.-working photoresist composition)

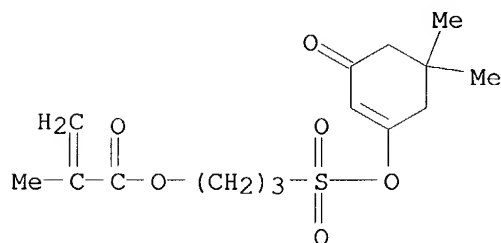
RN 312616-52-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-[[[(5,5-dimethyl-3-oxo-1-cyclohexen-1-yl)oxy]sulfonyl]propyl ester, polymer with 3-hydroxytricyclo[3.3.1.1<sup>3,7</sup>]dec-1-yl 2-methyl-2-propenoate and tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 289040-47-7

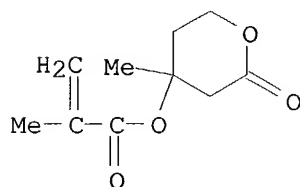
CMF C15 H22 O6 S



CM 2

CRN 177080-66-9

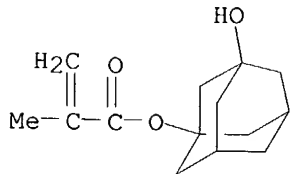
CMF C10 H14 O4



CM 3

CRN 115372-36-6

CMF C14 H20 O3



L109 ANSWER 48 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2000:863763 HCAPLUS  
 DN 134:49206  
 TI Excimer laser-sensitive positive-working photoresist composition  
 IN Sato, Kenichiro; Kodama, Kunihiro; Aogo, Toshiaki  
 PA Fuji Photo Film Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 72 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 8

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | JP 2000338680  | A2   | 20001208 | JP 1999-152861  | 19990531 |
|      | US 6479211     | B1   | 20021112 | US 2000-577884  | 20000525 |
| PRAI | JP 1999-146774 | A    | 19990526 |                 |          |
|      | JP 1999-146775 | A    | 19990526 |                 |          |
|      | JP 1999-150215 | A    | 19990528 |                 |          |
|      | JP 1999-152860 | A    | 19990531 |                 |          |
|      | JP 1999-152861 | A    | 19990531 |                 |          |
|      | JP 1999-152862 | A    | 19990531 |                 |          |
|      | JP 1999-158693 | A    | 19990604 |                 |          |
|      | JP 1999-158695 | A    | 19990604 |                 |          |

AB The title composition contains an acid-generating compound, a resin sensitive to an acid to become soluble in an alkali, and a polyester or a naphthalene ester. The resin has a specific repeating unit containing an adamantane structure. The composition provides the high sensitivity, resolution, dry-etching resistance, contact to the substrate.

IT **312616-52-7P**  
 RL: **SPN (Synthetic preparation)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)  
 (resin in excimer laser-sensitive pos.-working photoresist composition)

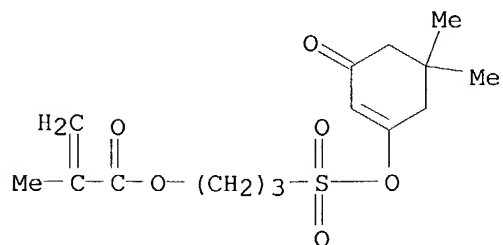
RN 312616-52-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-[[5,5-dimethyl-3-oxo-1-cyclohexen-1-yl]oxy]sulfonylpropyl ester, polymer with 3-hydroxytricyclo[3.3.1.1.3,7]dec-1-yl 2-methyl-2-propenoate and tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 289040-47-7  
 CMF C15 H22 O6 S

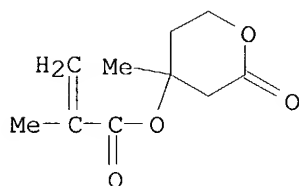




CM 2

CRN 177080-66-9

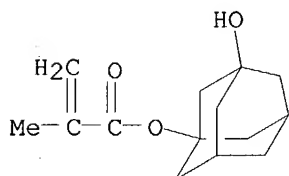
CMF C10 H14 O4



CM 3

CRN 115372-36-6

CMF C14 H20 O3



L109 ANSWER 49 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2000:863762 HCAPLUS

DN 134:49205

TI Argon fluoride excimer laser-sensitive positive-working photoresist composition

IN Sato, Kenichiro; Nakao, Hajime; Aogo, Toshiaki

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 47 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 8

| PATENT NO. | KIND | DATE  | APPLICATION NO. | DATE  |
|------------|------|-------|-----------------|-------|
| -----      | ---- | ----- | -----           | ----- |

PI JP 2000338679 A2 20001208 JP 1999-152860 19990531  
 US 6479211 B1 20021112 US 2000-577884 20000525  
 PRAI JP 1999-146774 A 19990526  
 JP 1999-146775 A 19990526  
 JP 1999-150215 A 19990528  
 JP 1999-152860 A 19990531  
 JP 1999-152861 A 19990531  
 JP 1999-152862 A 19990531  
 JP 1999-158693 A 19990604  
 JP 1999-158695 A 19990604

AB The title composition contains an acid-generating compound, a resin sensitive  
 to  
 an acid to become soluble in an alkali, a solvent consisting of Et lactate  
 and Et 3-ethoxypropionate. The resin has a specific repeating unit containing  
 an adamantane structure. The composition provides the high sensitivity,  
 resolution, the high dry-etching resistance, and the strong contact to the  
 substrate.

IT 312616-52-7P

RL: **SPN (Synthical preparation)**; TEM (Technical or engineered  
 material use); **PREP (Preparation)**; USES (Uses)  
 (resin in excimer laser-sensitive pos.-working photoresist  
 composition)

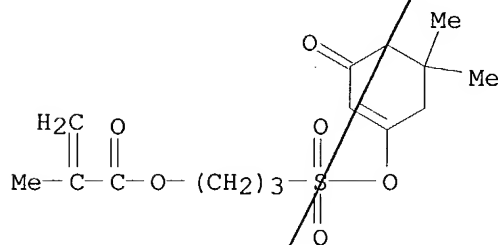
RN 312616-52-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-[[[(5,5-dimethyl-3-oxo-1-cyclohexen-1-  
 yl)oxy]sulfonyl]propyl ester, polymer with 3-hydroxytricyclo[3.3.1.1<sup>3,7</sup>]de  
 c-1-yl 2-methyl-2-propenoate and tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl  
 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 289040-47-7

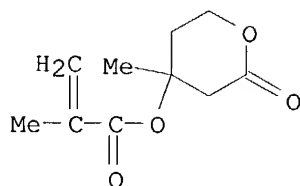
CMF C15 H22 O6 S



CM 2

CRN 177080-66-9

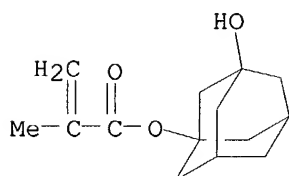
CMF C16 H14 O4



CM 3

CRN 115372-36-6

CMF C14 H20 O3



L109 ANSWER 50 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2000:863759 HCAPLUS

DN 134:49202

TI Argon fluoride excimer laser-sensitive positive-working photoresist composition

IN Sato, Kenichiro; Nakao, Hajime; Aogo, Toshiaki

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 47 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 8

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | JP 2000338676  | A2   | 20001208 | JP 1999-150215  | 19990528 |
|      | US 6479211     | B1   | 20021112 | US 2000-577884  | 20000525 |
| PRAI | JP 1999-146774 | A    | 19990526 |                 |          |
|      | JP 1999-146775 | A    | 19990526 |                 |          |
|      | JP 1999-150215 | A    | 19990528 |                 |          |
|      | JP 1999-152860 | A    | 19990531 |                 |          |
|      | JP 1999-152861 | A    | 19990531 |                 |          |
|      | JP 1999-152862 | A    | 19990531 |                 |          |
|      | JP 1999-158693 | A    | 19990604 |                 |          |
|      | JP 1999-158695 | A    | 19990604 |                 |          |

AB The title composition contains an acid-generating compound, a resin sensitive to an acid to become soluble in an alkali, a fluorinated surfactant and/or a silicone surfactant. The resin has a specific repeating unit containing an adamantane structure. The composition provides a resist of the high sensitivity, the high resolution, the strong dry-etching resistance, and the excellent contact to the substrate.

IT 312616-52-7P

RL: **SPN (Synthetic preparation)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)  
(resin in excimer laser-sensitive pos.-working **photoresist** composition)

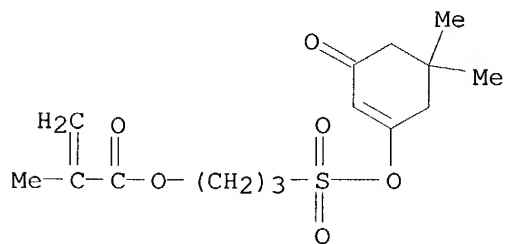
RN 312616-52-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-[[[(5,5-dimethyl-3-oxo-1-cyclohexen-1-yl)oxy]sulfonyl]propyl ester, polymer with 3-hydroxytricyclo[3.3.1.1<sup>3,7</sup>]dec-1-yl 2-methyl-2-propenoate and tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 289040-47-7

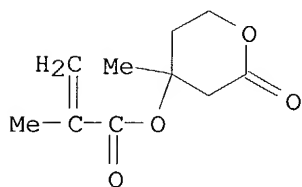
CMF C15 H22 O6 S



CM 2

CRN 177080-66-9

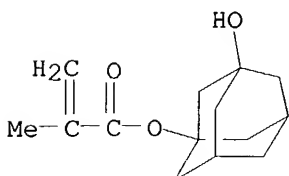
CMF C10 H14 O4



CM 3

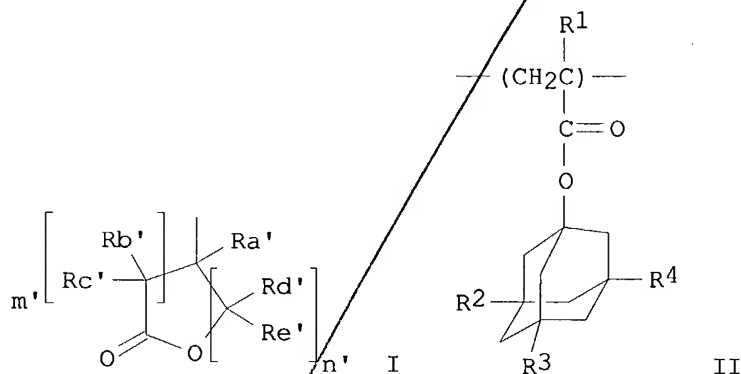
CRN 115372-36-6

CMF C14 H20 O3



L109 ANSWER 51 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2000:863756 HCAPLUS  
 DN 134:49199  
 TI Far-UV positive-working photoresist composition  
 IN Sato, Kenichiro; Kodama, Kunihiro; Aogo, Toshiaki  
 PA Fuji Photo Film Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 34 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 8

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | JP 2000338673  | A2   | 20001208 | JP 1999-146774  | 19990526 |
|      | US 6479211     | B1   | 20021112 | US 2000-577884  | 20000525 |
| PRAI | JP 1999-146774 | A    | 19990526 |                 |          |
|      | JP 1999-146775 | A    | 19990526 |                 |          |
|      | JP 1999-150215 | A    | 19990528 |                 |          |
|      | JP 1999-152860 | A    | 19990531 |                 |          |
|      | JP 1999-152861 | A    | 19990531 |                 |          |
|      | JP 1999-152862 | A    | 19990531 |                 |          |
|      | JP 1999-158693 | A    | 19990604 |                 |          |
|      | JP 1999-158695 | A    | 19990604 |                 |          |
| GI   |                |      |          |                 |          |



AB The title photoresist composition comprises a photoacid and a resin which, increasing alkaline solubility upon the reaction with an acid, contains a repating

unit I (Ra' = H, C1-4 alkyl; m' = 0-2; n' = 1-3; 2 ≤ (m' + n') ≤ 6) and II (R1 = H, halo, C104 alkyl; R2-4 = H, OH).

IT 312616-52-7P

RL: POF (Polymer in formulation); SPN (Synthetic preparation);  
 TEM (Technical or engineered material use); PREP (Preparation);  
 USES (Uses)

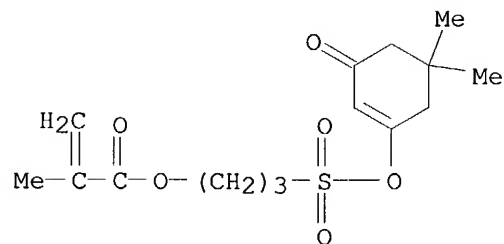
(far-UV pos.-working photoresist composition from)

RN 312616-52-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-[[[(5,5-dimethyl-3-oxo-1-cyclohexen-1-yl)oxy]sulfonyl]propyl ester, polymer with 3-hydroxytricyclo[3.3.1.1<sup>3,7</sup>]dec-1-yl 2-methyl-2-propenoate and tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

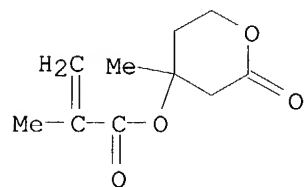
CM 1

CRN 289040-47-7  
CMF C15 H22 O6 S



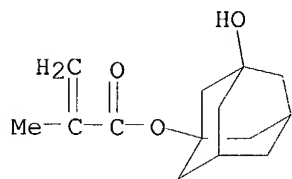
CM 2

CRN 177080-66-9  
CMF C10 H14 O4



CM 3

CRN 115372-36-6  
CMF C14 H20 O3



L109 ANSWER 52 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1999:518692 HCAPLUS

DN 131:192796

TI Transparent compound, transparent resin, photosensitive composition  
containing transparent resin, and manufacture of semiconductor device  
using the composition

IN Oshita, Atsushi; Kumata, Teruhiko

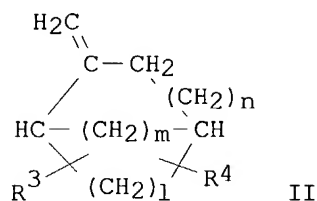
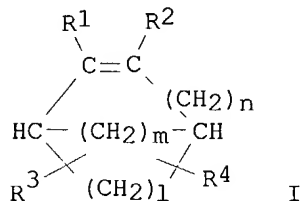
PA Mitsubishi Electric Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 18 pp.

CODEN: JKXXAF

DT Patent  
LA Japanese  
FAN.CNT 1

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | JP 11222460    | A2   | 19990817 | JP 1998-113503  | 19980423 |
| PRAI | JP 1997-331796 |      | 19971202 |                 |          |
| GI   |                |      |          |                 |          |



AB The transparent compound is a product of reaction between a carboxylic acid and unsatd. tricyclic compound I or II (R1 and/or R2 = Me, the rest is H; R3, R4 = hydrocarbyl or R3 and R4 form alkyl-substituted cyclic structure) in a strong acid. The resin contains a product of reaction between a C:C-containing carboxylic acid and I or II in a strong acid. The composition contains the transparent resin and a compound releasing acid under light or radiation irradiation. The semiconductor device is manufactured by a process including forming a film made of the composition on a substrate, imagewise exposing the film by short-wave-length laser, and developing the pattern. The photosensitive photoresist composition shows high transparency to ArF excimer laser region and dry etching resistance.

IT 239096-21-0P

RL: **IMF (Industrial manufacture)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)  
(unsatd. tricyclic compound carboxylate for transparent resin as laser-sensitive **photoresist** with dry etching resistance for semiconductor device fabrication)

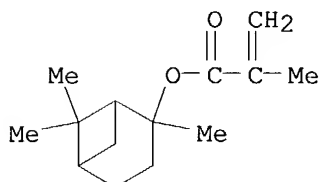
RN 239096-21-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2,6,6-trimethylbicyclo[3.1.1]hept-2-yl ester, polymer with ethenyl acetate (9CI) (CA INDEX NAME)

CM 1

CRN 239096-06-1

CMF C14 H22 O2



CRN 108-05-4  
CMF C4 H6 O2

AcO-CH=CH<sub>2</sub>

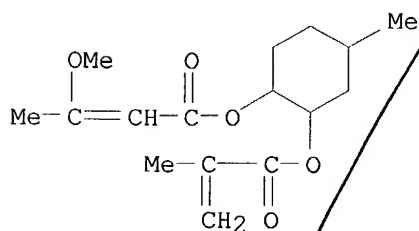
L109 ANSWER 53 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 1998:721577 HCAPLUS  
DN 129:349062  
TI Resist composition and its use for forming patterns  
IN Sumino, Motoshige; Fukasawa, Kazuhito; Matsuo, Takahiro  
PA Wako Pure Chemical Industries, Ltd, Japan; Matsushita Electric Industrial Co., Ltd.  
SO Eur. Pat. Appl., 32 pp.  
CODEN: EPXXDW  
DT Patent  
LA English  
FAN.CNT 1

|      | PATENT NO.   | KIND | DATE     | APPLICATION NO. | DATE     |
|------|--|------|----------|-----------------|----------|
| PI   | EP 875789  | A1   | 19981104 | EP 1998-303331  | 19980429 |
|      | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO  |      |          |                 |          |
|      | JP 11015164  | A2   | 19990122 | JP 1998-136123  | 19980430 |
| PRAI | JP 1997-126402   |      | 19970430 |                 |          |
| AB   | A resist composition comprising (a) a polymer having repeating units of the formula -[C(R1)(R2)C(R3)ZOCOR4]- (R1-3 = hydrogen, alkyl, cyano, alkyloxycarbonyl, or carbamoyl; Z = a spacer or a direct link and R = hydroxyalkyl having protected terminal hydroxy), (b) a photoacid generator, and (c) a solvent is effective for forming patterns using an ArF excimer laser. |      |          |                 |          |
| IT   | <b>215382-90-4P</b><br>RL: <b>SPN (Synthetic preparation)</b> ; TEM (Technical or engineered material use); <b>PREP (Preparation)</b> ; USES (Uses)<br>(preparation and use in <b>photoresists</b> effective for forming patterns using argon fluoride excimer lasers)   |      |          |                 |          |
| RN   | 215382-90-4 HCAPLUS  |      |          |                 |          |
| CN   | 2-Butenoic acid, 3-methoxy-, 4-methyl-2-[(2-methyl-1-oxo-2-propenyl)oxy]cyclohexyl ester, polymer with 1-methyl-1-[4-methyl-2-[(2-methyl-1-oxo-2-propenyl)oxy]cyclohexyl]ethyl 3-oxobutanoate (9CI) (CA INDEX NAME)  |      |          |                 |          |

CM 1

CRN 215382-89-1  
CMF C16 H24 O5

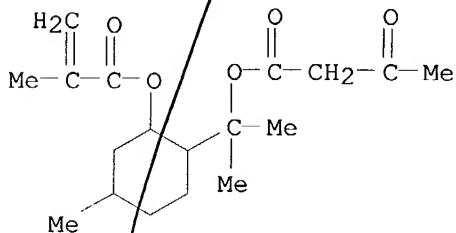




CM 2

CRN 215051-54-0

CMF C18 H28 O5



RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L109 ANSWER 54 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1997:619209 HCAPLUS

DN 127:301275

TI Cyclic carbonyl enol-containing photoresist for alkaline development

IN Gokochi, Toru; Asakawa, Koji; Kono, Naomi; Nakase, Makoto

PA Toshiba Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 23 pp.

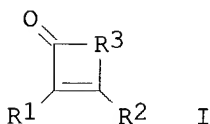
CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

|      | PATENT NO.        | KIND | DATE     | APPLICATION NO. | DATE     |
|------|-------------------|------|----------|-----------------|----------|
| PI   | JP 09244235       | A2   | 19970919 | JP 1996-56610   | 19960314 |
| PRAI | JP 1996-56610     |      | 19960314 |                 |          |
| OS   | MARPAT 127:301275 |      |          |                 |          |
| GI   |                   |      |          |                 |          |



AB The photoresist contains an acid compd having a 4- or 6-membered ring compound I (R1, 2 = H, OH, monovalent organic group; R3 = divalent organic group), its ether, and/or its salt. The photoresist contains an acid polymer compound having the 4- or 6-membered ring compound, a soluble-prevention agent, and a photoacid generator. The photoresist contains an ether having the 4- or 6-membered ring acid compound containing an acid-decomposable group and/or an acid-crosslinkable group and a photoacid generator. The photoresist contains an acid-decomposable group- or an acid-crosslinkable group-containing compound and a photoacid generator containing an onium salt of the acid compound

The photoresist contains an acid-decomposable group- or an acid-crosslinkable group-containing compound, a photoacid generator, the acid compound. The photoresist shows transparency to short wavelength and good dry-etching resistance. The photoresist is useful for semiconductor device fabrication.

IT **197161-19-6P**, tert-Butyl methacrylate; 5-methyl-1,3-dione-4-cyclopentene-4-oxyethyl methacrylate; menthyl methacrylate; methacrylic acid copolymer **197161-20-9P**, 4-Hydroxyethyl methacrylate ether with 4-hydroxy-5-methyl-4-cyclopentene-1,3-dione-menthyl methacrylate-methacrylic acid copolymer **197161-22-1P**, tert-Butyl methacrylate-4-hydroxyethyl methacrylate ether with 1-monoisopropoxy-3-hydroxycyclobutene-1,3-dione-menthyl methacrylate-methacrylic acid copolymer

RL: DEV (Device component use); **IMF (Industrial manufacture);**

**PREP (Preparation);** USES (Uses)

(photoresist containing cyclic carbonyl enol compound for alkaline development)

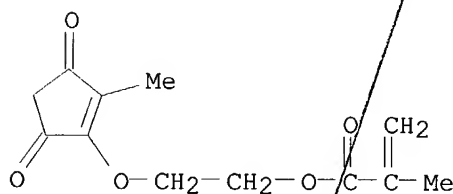
RN 197161-19-6 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, polymer with 1,1-dimethylethyl 2-methyl-2-propenoate, 2-[(2-methyl-3,5-dioxo-1-cyclopenten-1-yl)oxy]ethyl 2-methyl-2-propenoate and (1 $\alpha$ ,2 $\beta$ ,5 $\alpha$ )-5-methyl-2-(1-methylethyl)cyclohexyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 197161-18-5

CMF C12 H14 O5

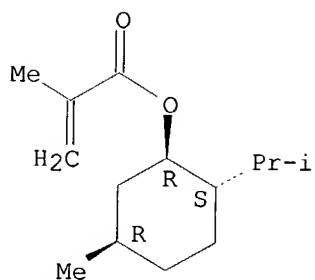


CM 2

CRN 7372-67-0

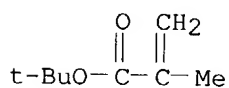
CMF C14 H24 O2

Relative stereochemistry.



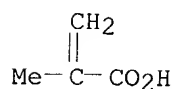
CM 3

CRN 585-07-9  
CMF C8 H14 O2



CM 4

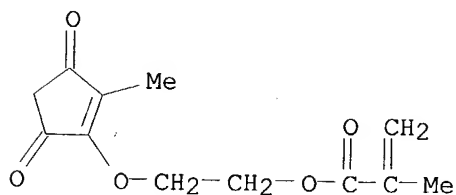
CRN 79-41-4  
CMF C4 H6 O2



RN 197161-20-9 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, polymer with 2-[(2-methyl-3,5-dioxo-1-cyclopenten-1-yl)oxy]ethyl 2-methyl-2-propenoate and (1 $\alpha$ ,2 $\beta$ ,5 $\alpha$ )-5-methyl-2-(1-methylethyl)cyclohexyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

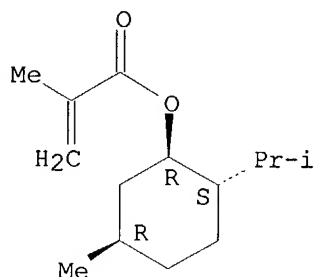
CRN 197161-18-5  
CMF C12 H14 O5



CM 2

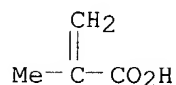
CRN 7372-67-0  
CMF C14 H24 O2

Relative stereochemistry.



CM 3

CRN 79-41-4  
CMF C4 H6 O2

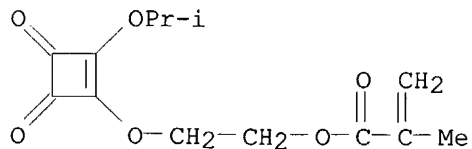


RN 197161-22-1 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, polymer with 1,1-dimethylethyl 2-methyl-2-propenoate, 2-[[2-(1-methylethoxy)-3,4-dioxo-1-cyclobuten-1-yl]oxy]ethyl 2-methyl-2-propenoate and (1 $\alpha$ ,2 $\beta$ ,5 $\alpha$ )-5-methyl-2-(1-methylethyl)cyclohexyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

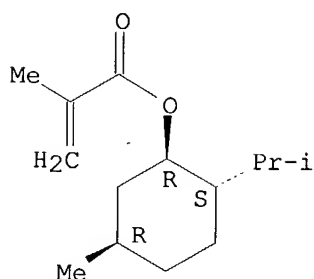
CRN 197161-21-0  
CMF C13 H16 O6



CM 2

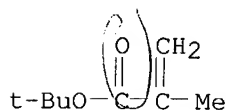
CRN 7372-67-0  
CMF C14 H24 O2

Relative stereochemistry.



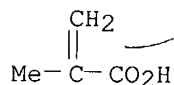
CM 3

CRN 585-07-9  
CMF C8 H14 O2



CM 4

CRN 79-41-4  
CMF C4 H6 O2



L109 ANSWER 55 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1997:610797 HCAPLUS

DN 127:248563

TI Addition vinyl polymers having hydrophilic group and other functional group

IN Urano, Fumiyoshi; Sumino, Motoshige; Maesawa, Tsuneaki

PA Wako Pure Chemical Industries, Ltd., Japan

SO Eur. Pat. Appl., 19 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

|      | PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE     |
|------|---|------|----------|-----------------|----------|
| PI   | EP 794199   | A2   | 19970910 | EP 1997-103416  | 19970301 |
|      | EP 794199   | A3   | 19991020 |                 |          |
|      | R: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE     |      |          |                 |          |
|      | US 5973094  | A    | 19991026 | US 1997-811215  | 19970305 |
|      | JP 09296010   | A2   | 19971118 | JP 1997-69164   | 19970306 |
| PRAI | JP 1996-79584   |      | 19960307 |                 |          |
| AB   | Title polymers are prepared from a monomer unit containing a hydroxy group or |      |          |                 |          |

other hydrophilic radical and other functional group, i.e. cyano group, aminocarbonyl, or a carboxyl group which may be esterified. Thus, Me pyruvate was treated with acetic anhydride to give Me 2-acetyloxyacrylate (b. 65-68°), polymerized in the presence of V-601 to give poly(Me 2-acetyloxyacrylate) [weight-average mol. weight (Mw) 48,500], and deprotected

to

give poly(2-hydroxyacrylic acid) (Mw 29,500).

IT 195732-05-9DP, deprotected 195732-09-3DP, deprotected

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(addition vinyl polymers having hydrophilic group and other functional group for coatings for photoresist)

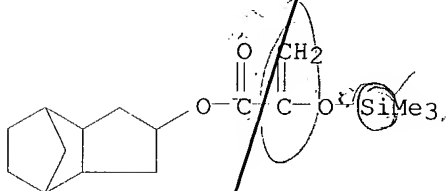
RN 195732-05-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1-ethoxyethyl ester, polymer with octahydro-4,7-methano-1H-inden-2-yl 2-[(trimethylsilyl)oxy]-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 195732-04-8

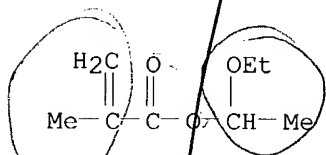
CMF C16 H26 O3 Si



CM 2

CRN 51920-52-6

CMF C8 H14 O3



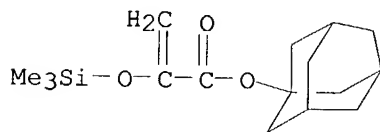
RN 195732-09-3 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1-ethoxyethyl ester, polymer with tricyclo[3.3.1.1.3,7]dec-1-yl 2-[(trimethylsilyl)oxy]-2-propenoate (9CI) (CA INDEX NAME)

CM 1

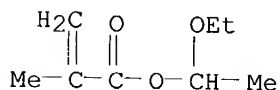
CRN 195732-08-2

CMF C16 H26 O3 Si



CM 2

CRN 51920-52-6  
CMF C8 H14 O3

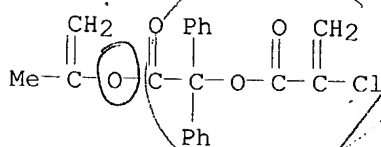


L109 ANSWER 56 OF 56 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 1996:132827 HCAPLUS  
DN 124:189523  
TI Photosensitive resin composition as photoresist with high-sensitivity and high-resolution  
IN Sasahara, Atsuko; Kumada, Teruhiko; Yoshida, Yasuhiro; Horibe, Hideo; Kubota, Shigeru  
PA Mitsubishi Electric Corp, Japan  
SO Jpn. Kokai Tokkyo Koho, 42 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
FAN.CNT 1

|      | PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE     |
|------|---|------|----------|-----------------|----------|
| PI   | JP 07295221   | A2   | 19951110 | JP 1994-89917   | 19940427 |
| PRAI | JP 1994-89917   |      | 19940427 |                 |          |
| AB   | The title composition comprises a polymer containing a carboxyl group and a specified carboxylic acid ester group at its side chain and a compound capable of generating an acid or base on being irradiated and optionally a poly-carboxylic acid ester. |      |          |                 |          |
| IT   | <b>173947-77-8P</b><br>RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)<br>(prepared for photoresist composition)  |      |          |                 |          |
| RN   | 173947-77-8 HCAPLUS   |      |          |                 |          |
| CN   | Benzeneacetic acid, $\alpha$ -[(2-chloro-1-oxo-2-propenyl)oxy]- $\alpha$ -phenyl-, polymer with 1-methylethenyl $\alpha$ -[(2-chloro-1-oxo-2-propenyl)oxy]- $\alpha$ -phenylbenzeneacetate (9CI) (CA INDEX NAME)  |      |          |                 |          |

CM 1

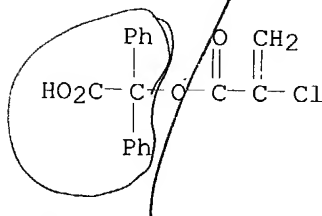
CRN 173947-52-9  
CMF C20 H17 Cl O4



CM 2

CRN 173947-36-9

CMF C17 H13 Cl O4



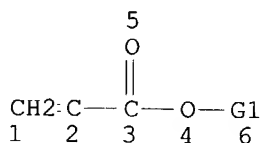
=> => D QUE

L74

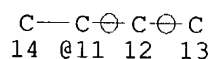
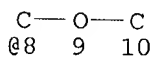
SCR 2043

L76

STR



Cy @7



O=Ak-O-A  
18 @15 16 17

VAR G1=7/8/11/15

NODE ATTRIBUTES:

NSPEC IS R AT 11  
NSPEC IS R AT 12  
NSPEC IS R AT 13  
NSPEC IS RC AT 17  
CONNECT IS E1 RC AT 18  
DEFAULT MLEVEL IS ATOM  
GGCAT IS SAT AT 7  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

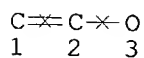
RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 18

STEREO ATTRIBUTES: NONE

L79 19699 SEA FILE=REGISTRY SSS FUL L76 AND L74  
L80 STR

11 CA references.  
printed previously  
in other  
2 searches.  
Just printed  
with bib  
& structure





NODE ATTRIBUTES:

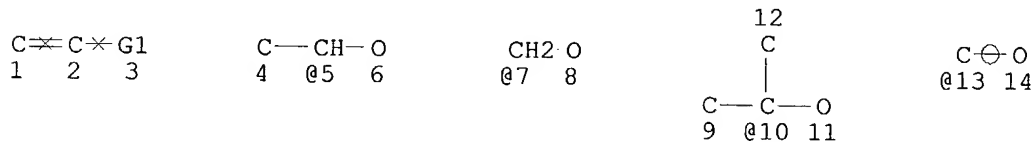
NSPEC IS RC AT 1  
NSPEC IS RC AT 2  
NSPEC IS RC AT 3  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 3

STEREO ATTRIBUTES: NONE

L82 911 SEA FILE=REGISTRY SUB=L79 SSS FUL L80  
L86 STR



VAR G1=5/7/10/13

NODE ATTRIBUTES:

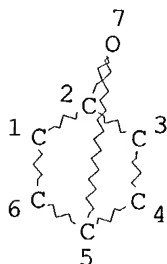
NSPEC IS RC AT 1  
NSPEC IS RC AT 2  
NSPEC IS RC AT 4  
NSPEC IS RC AT 9  
NSPEC IS RC AT 12  
NSPEC IS R AT 13  
NSPEC IS R AT 14  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 14

STEREO ATTRIBUTES: NONE

L90 1871 SEA FILE=REGISTRY SUB=L79 SSS FUL L86  
L91 STR



NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 7

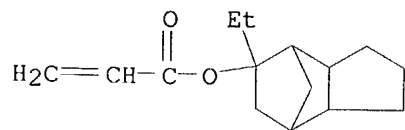
STEREO ATTRIBUTES: NONE

L93 92 SEA FILE=REGISTRY SUB=L79 SSS FUL L91  
 L94 32 SEA FILE=HCAPLUS ABB=ON L93  
 L95 28 SEA FILE=HCAPLUS ABB=ON L94(L) (PREP OR SPN OR IMF)/RL  
 L96 27 SEA FILE=HCAPLUS ABB=ON L95(L) ?RESIST?  
 L97 793 SEA FILE=HCAPLUS ABB=ON L90  
 L98 452 SEA FILE=HCAPLUS ABB=ON L97(L) ?RESIST?  
 L99 365 SEA FILE=HCAPLUS ABB=ON L98(L) (PREP OR SPN OR IMF)/RL  
 L100 131 SEA FILE=HCAPLUS ABB=ON L99 AND PATTERN?  
 L101 119 SEA FILE=HCAPLUS ABB=ON L100 AND PHOTORESISTS/IT  
 L102 20 SEA FILE=HCAPLUS ABB=ON L101 AND (?VINYL? OR ?ALLYL?)  
 L105 35 SEA FILE=HCAPLUS ABB=ON L101 AND ETHER?  
 L106 44 SEA FILE=HCAPLUS ABB=ON L102 OR L105  
 L107 526 SEA FILE=HCAPLUS ABB=ON L82  
 L108 67 SEA FILE=HCAPLUS ABB=ON L107(L) PHOTORESIST?(L) (PREP OR IMF OR  
 SPN)/RL  
 L109 56 SEA FILE=HCAPLUS ABB=ON (L108 OR L106 OR L96) NOT (L106 OR  
 L96)  
 L110 11 SEA FILE=HCAPLUS ABB=ON L108 NOT L109

=> D L110 1-11 BIB HITSTR

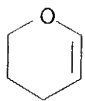
L110 ANSWER 1 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2004:177627 HCAPLUS  
 DN 140:347367  
 TI Design and synthesis of new photoresist materials for ArF lithography  
 AU Seo, Hwang-Un; Jin, Sung-Ho; Choi, Sang-Jun; Gal, Yeong-Soon; Lim, Kwon  
 Taek  
 CS Department of Chemistry Education and Chemistry Institute for Functional  
 Materials, Pusan National University, Pusan, 609-735, S. Korea  
 SO Journal of Applied Polymer Science (2004), 92(1), 165-170  
 CODEN: JAPNAB; ISSN: 0021-8995  
 PB John Wiley & Sons, Inc.  
 DT Journal  
 LA English  
 IT 328061-11-6P 328061-12-7P  
 RL: PRP (Properties); SPN (Synthetic preparation); TEM  
 (Technical or engineered material use); PREP (Preparation); USES  
 (Uses)  
 (vinyl ether-maleic anhydride alternating copolymers for chemical  
 amplified vacuum-UV **photoresists** with excellent dry etch  
 resistance and high resolution)  
 RN 328061-11-6 HCAPLUS  
 CN 2-Propenoic acid, 5-ethyloctahydro-4,7-methano-1H-inden-5-yl ester,  
 polymer with 3,4-dihydro-2H-pyran and 2,5-furandione (9CI) (CA INDEX  
 NAME)  
 CM 1  
 CRN 307495-75-6  
 CMF C15 H22 O2

*11 CA references which  
 were printed in  
 full in other  
 2 searches*



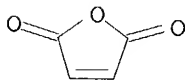
CM 2

CRN 110-87-2  
CMF C5 H8 O



CM 3

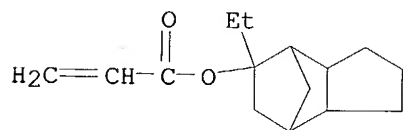
CRN 108-31-6  
CMF C4 H2 O3



RN 328061-12-7 HCAPLUS  
CN 2-Propenoic acid, 5-ethyloctahydro-4,7-methano-1H-inden-5-yl ester,  
polymer with 2-ethoxy-3,4-dihydro-2H-pyran and 2,5-furandione (9CI) (CA  
INDEX NAME)

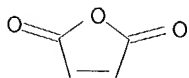
CM 1

CRN 307495-75-6  
CMF C15 H22 O2



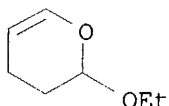
CM 2

CRN 108-31-6  
CMF C4 H2 O3



CM 3

CRN 103-75-3  
CMF C7 H12 O2



RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L110 ANSWER 2 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2003:907515 HCAPLUS  
DN 139:401544  
TI Positive-working chemically amplification type photoresist composition  
showing improved pattern profile and line edge roughness  
IN Sato, Kenichiro  
PA Fuji Photo Film Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 81 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
FAN.CNT 1

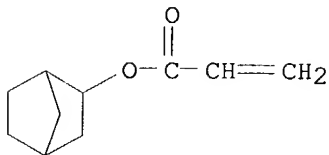
|      | PATENT NO.  | KIND | DATE                | APPLICATION NO. | DATE     |
|------|---|------|---------------------|-----------------|----------|
| PI   | JP 2003330194   | A2   | <del>20031119</del> | JP 2002-138810  | 20020514 |
| PRAI | JP 2002-138810  |      | 20020514            |                 |          |
| OS   | MARPAT 139:401544   |      |                     |                 |          |
| IT   | 625422-21-1P 625422-27-7P 625422-30-2P<br>625422-33-5P 625422-36-8P 625422-43-7P<br>625422-46-0P 625462-07-9P |      |                     |                 |          |

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(pos.-working chemical amplification type photoresist composition showing improved pattern profile and line edge roughness)

RN 625422-21-1 HCAPLUS  
CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylpropyl ester, polymer with 5(or 6)-cyanobicyclo[2.2.1]hept-2-yl 2-propenoate, 2-(ethenyloxy)ethyl acetate and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 398152-51-7  
CMF C11 H13 N O2  
CCI IDS

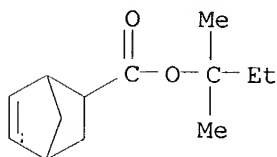


D1-CN

CM 2

CRN 398140-58-4

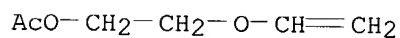
CMF C13 H20 O2



CM 3

CRN 6026-79-5

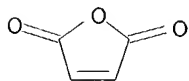
CMF C6 H10 O3



CM 4

CRN 108-31-6

CMF C4 H2 O3



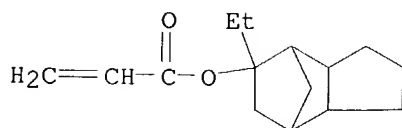
RN 625422-27-7 HCAPLUS

CN 2-Propenoic acid, 2-(2-cyanoethoxy)ethyl ester, polymer with  
3,4-dihydro-2-methoxy-2H-pyran, 5-ethyloctahydro-4,7-methano-1H-inden-5-yl  
2-propenoate and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 307495-75-6

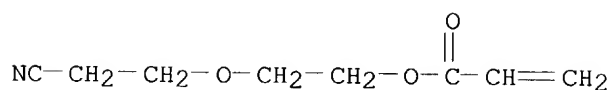
CMF C15 H22 O2



CM 2

CRN 7790-03-6

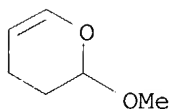
CMF C8 H11 N O3



CM 3

CRN 4454-05-1

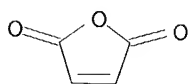
CMF C6 H10 O2



CM 4

CRN 108-31-6

CMF C4 H2 O3



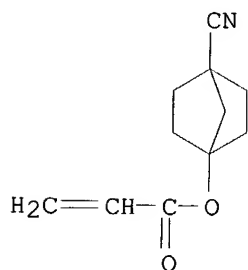
RN 625422-30-2 HCAPLUS

CN 2-Propenoic acid, 4-cyanobicyclo[2.2.1]hept-1-yl ester, polymer with 2-(ethenyloxy)-2-methylpropane, 2-ethyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl 2-propenoate and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

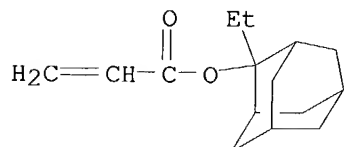
CRN 515837-29-3

CMF C11 H13 N O2



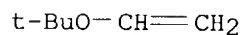
CM 2

CRN 303186-14-3  
CMF C15 H22 O2



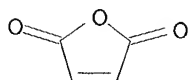
CM 3

CRN 926-02-3  
CMF C6 H12 O



CM 4

CRN 108-31-6  
CMF C4 H2 O3

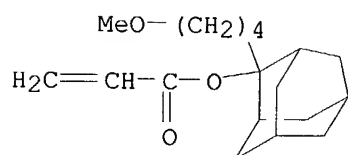


RN 625422-33-5 HCAPLUS  
CN 2-Propenoic acid, 2-cyanoethyl ester, polymer with  
(ethenyloxy)cyclohexane, 2,5-furandione and 2-(4-  
methoxybutyl)tricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl 2-propenoate (9CI) (CA INDEX  
NAME)

CM 1

CRN 581784-05-6

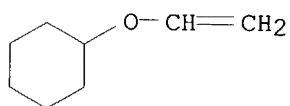
CMF C18 H28 O3



CM 2

CRN 2182-55-0

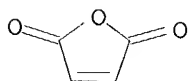
CMF C8 H14 O



CM 3

CRN 108-31-6

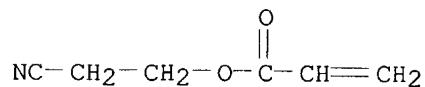
CMF C4 H2 O3



CM 4

CRN 106-71-8

CMF C6 H7 N O2



RN 625422-36-8 HCAPLUS

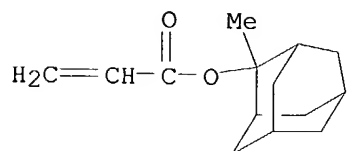
CN 2-Propenoic acid, 2-(2-cyanoethoxy)propyl ester, polymer with 1-(ethenyloxy)-2-methylpropane, 2,5-furandione, hexahydro-2-oxo-3,5-methano-2H-cyclopenta[b]furan-6-yl 2-propenoate and 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 249562-06-9

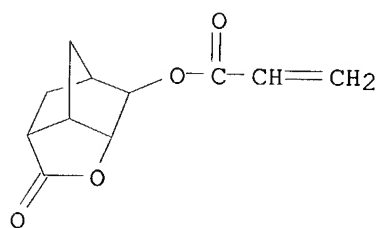
CMF C14 H20 O2





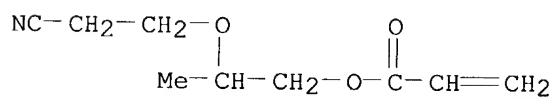
CM 2

CRN 242129-35-7  
CMF C11 H12 O4



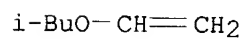
CM 3

CRN 166441-56-1  
CMF C9 H13 N O3



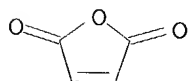
CM 4

CRN 109-53-5  
CMF C6 H12 O



CM 5

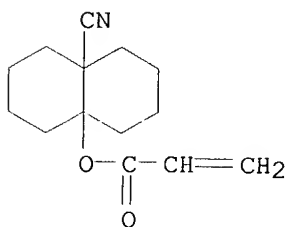
CRN 108-31-6  
CMF C4 H2 O3



RN 625422-43-7 HCAPLUS  
 CN Tricyclo[3.3.1.1<sup>3,7</sup>]decane-1-carboxylic acid, 2-(ethenyloxy)ethyl ester,  
 polymer with 8a-cyanoctahydro-4a(2H)-naphthalenyl 2-propenoate,  
 2,5-furandione and 2-(4-methoxybutyl)tricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl  
 2-propenoate (9CI) (CA INDEX NAME)

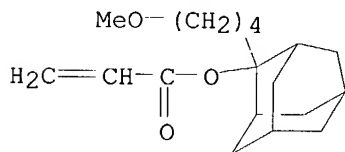
CM 1

CRN 625422-42-6  
 CMF C14 H19 N O2



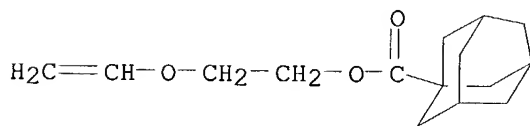
CM 2

CRN 581784-05-6  
 CMF C18 H28 O3



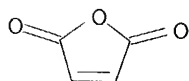
CM 3

CRN 219774-72-8  
 CMF C15 H22 O3



CM 4

CRN 108-31-6  
 CMF C4 H2 O3

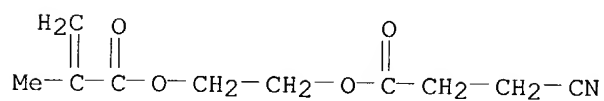


RN 625422-46-0 HCAPLUS  
 CN 2-Propenoic acid, 2-methyl-, 2-(3-cyano-1-oxopropoxy)ethyl ester, polymer with 4',5'-dihydrospiro[bicyclo[2.2.1]hept-5-ene-2,3'(2'H)-furan]-2'-one, 1-(ethenyloxy)butane, 5-ethyloctahydro-4,7-methano-1H-inden-5-yl 2-methyl-2-propenoate and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 515822-01-2

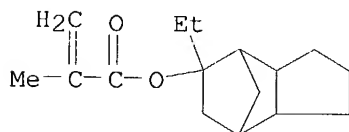
CMF C10 H13 N O4



CM 2

CRN 348089-09-8

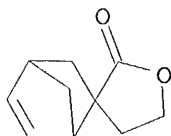
CMF C16 H24 O2



CM 3

CRN 72377-80-1

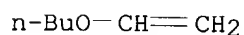
CMF C10 H12 O2



CM 4

CRN 111-34-2

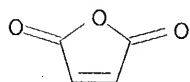
CMF C6 H12 O



CM 5

CRN 108-31-6

CMF C4 H2 O3



RN 625462-07-9 HCAPLUS

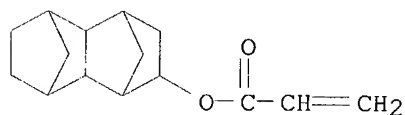
CN 2-Propenoic acid, 6(or 7)-cyanodecahydro-1,4:5,8-dimethanonaphthalen-2-yl ester, polymer with 1-[[2-(ethenyloxy)ethoxy]methyl]tricyclo[3.3.1.1<sup>3,7</sup>]decane, 2,5-furandione and 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 625462-06-8

CMF C16 H19 N O2

CCI IDS

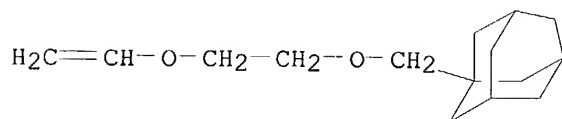


D1-CN

CM 2

CRN 625462-05-7

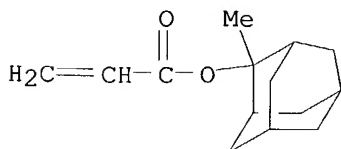
CMF C15 H24 O2



CM 3

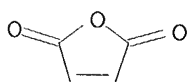
CRN 249562-06-9

CMF C14 H20 O2



CM 4

CRN 108-31-6  
CMF C4 H2 O3



L110 ANSWER 3 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:855509 HCAPLUS

DN 139:356051

TI Photosensitive polymers, resist compositions comprising the same, and methods for forming photoresistive patterns

IN Choi, Sangjun; Kim, Hyunwo; Moon, Joontae; Woo, Sanggyun

PA S. Korea

SO U.S. Pat. Appl. Publ., 10 pp.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 1

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO.  | DATE     |
|------|----------------|------|----------|------------------|----------|
| PI   | US 2003203306  | A1   | 20031030 | US 2002-123431   | 20020417 |
|      | DE 10249006    | A1   | 20031120 | DE 2002-10249006 | 20021021 |
|      | JP 2003313249  | A2   | 20031106 | JP 2003-9484     | 20030117 |
| PRAI | US 2002-123431 | A    | 20020417 |                  |          |

IT 618095-98-0P

RL: PRP (Properties); SPN (Synthetic preparation); TEM  
(Technical or engineered material use); PREP (Preparation); USES  
(Uses)

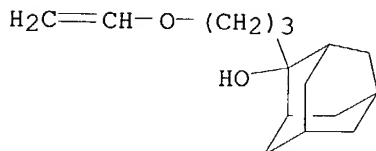
(photosensitive polymers for photoresist compns)

RN 618095-98-0 HCAPLUS

CN 2-Propenoic acid, 2-methyltricyclo[3.3.1.1.3]dec-2-yl ester, polymer with  
2-[3-(ethenyloxy)propyl]tricyclo[3.3.1.1.3]decan-2-ol and 2,5-furandione  
(9CI) (CA INDEX NAME)

CM 1

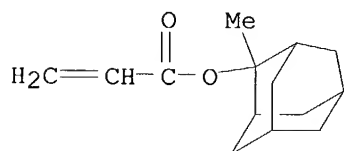
CRN 618095-89-9  
CMF C15 H24 O2



CM 2

CRN 249562-06-9

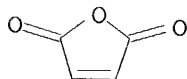
CMF C14 H20 O2



CM 3

CRN 108-31-6

CMF C4 H2 O3



IT 618096-02-9P

RL: **SPN (Synthetic preparation)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)  
(photosensitive polymers for **photoresist** compns)

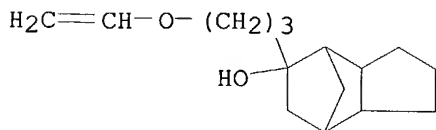
RN 618096-02-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester, polymer with bicyclo[2.2.1]hept-2-ene, 5-[3-(ethenyloxy)propyl]octahydro-4,7-methano-1H-inden-5-ol and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

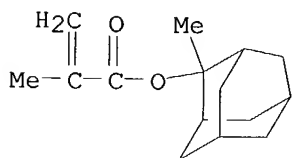
CRN 618095-92-4

CMF C15 H24 O2



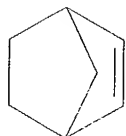
CM 2

CRN 177080-67-0  
CMF C15 H22 O2



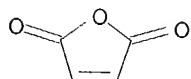
CM 3

CRN 498-66-8  
CMF C7 H10



CM 4

CRN 108-31-6  
CMF C4 H2 O3



L110 ANSWER 4 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2002:794185 HCAPLUS

DN 137:317926

TI Polymer, resist composition and patterning process

IN Nishi, Tsunehiro; Nakashima, Mutsuo; Tachibana, Seiichiro; Funatsu, Kenji

PA Shin-Etsu Chemical Co., Ltd., Japan

SO U.S. Pat. Appl. Publ., 38 pp.

CODEN: USXXCO

DT Patent

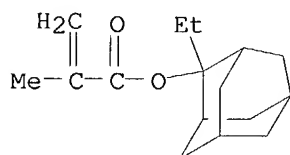
LA English

FAN.CNT 1

*applicants*

|      | PATENT NO.    | KIND | DATE     | APPLICATION NO.          | DATE                |
|------|---------------|------|----------|--------------------------|---------------------|
| PI   | US 2002150835 | A1   | 20021017 | <del>US 2002-73223</del> | <del>20020213</del> |
|      | JP 2002317016 | A2   | 20021031 | JP 2002-21562            | 20020130            |
| PRAI | JP 2001-37247 | A    | 20010214 |                          |                     |
|      | JP 2001-37262 | A    | 20010214 |                          |                     |
|      | JP 2001-37271 | A    | 20010214 |                          |                     |

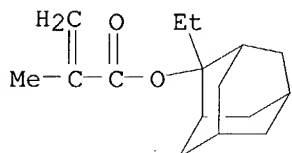
IT 470722-46-4P 470722-47-5P 470722-48-6P  
 470722-49-7P 470722-50-0P 470722-51-1P  
 470722-52-2P 470722-53-3P 470722-54-4P  
 470722-55-5P 470722-56-6P 470722-57-7P  
 RL: PRP (Properties); SPN (Synthetic preparation); TEM  
 (Technical or engineered material use); PREP (Preparation); USES  
 (Uses)  
 (polymer for photoresist composition and patterning process)  
 RN 470722-46-4 HCAPLUS  
 CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester,  
 polymer with 1-(ethenyloxy)-2-methylpropane (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 209982-56-9  
 CMF C16 H24 O2



CM 2  
 CRN 109-53-5  
 CMF C6 H12 O

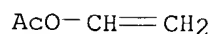
i-BuO-CH=CH<sub>2</sub>

RN 470722-47-5 HCAPLUS  
 CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester,  
 polymer with ethenyl acetate (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 209982-56-9  
 CMF C16 H24 O2



CM 2  
 CRN 108-05-4  
 CMF C4 H6 O2

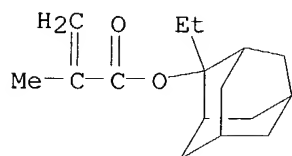




RN 470722-48-6 HCAPLUS  
 CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester,  
 polymer with (ethenyloxy)cyclohexane (9CI) (CA INDEX NAME)

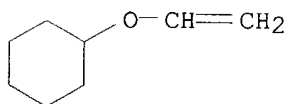
CM 1

CRN 209982-56-9  
 CMF C16 H24 O2



CM 2

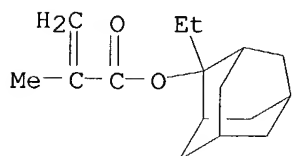
CRN 2182-55-0  
 CMF C8 H14 O



RN 470722-49-7 HCAPLUS  
 CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester,  
 polymer with 2,3-dihydrofuran (9CI) (CA INDEX NAME)

CM 1

CRN 209982-56-9  
 CMF C16 H24 O2



CM 2

CRN 1191-99-7  
 CMF C4 H6 O

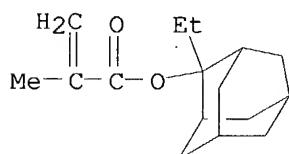


RN 470722-50-0 HCAPLUS  
 CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester,  
 polymer with 3,4-dihydro-2H-pyran (9CI) (CA INDEX NAME)

CM 1

CRN 209982-56-9

CMF C16 H24 O2



CM 2

CRN 110-87-2

CMF C5 H8 O

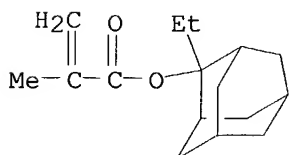


RN 470722-51-1 HCAPLUS  
 CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester,  
 polymer with 2-ethoxy-3,4-dihydro-2H-pyran (9CI) (CA INDEX NAME)

CM 1

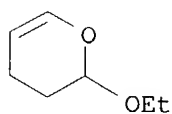
CRN 209982-56-9

CMF C16 H24 O2



CM 2

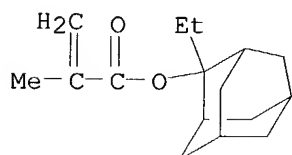
CRN 103-75-3  
CMF C7 H12 O2



RN 470722-52-2 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester,  
polymer with 1,3-dioxol-2-one (9CI) (CA INDEX NAME)

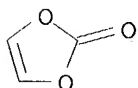
CM 1

CRN 209982-56-9  
CMF C16 H24 O2



CM 2

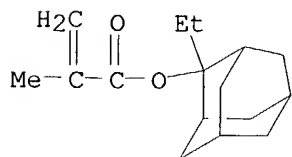
CRN 872-36-6  
CMF C3 H2 O3



RN 470722-53-3 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester,  
polymer with 5-methyl-2(3H)-furanone (9CI) (CA INDEX NAME)

CM 1

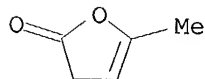
CRN 209982-56-9  
CMF C16 H24 O2



CM 2

CRN 591-12-8

CMF C5 H6 O2



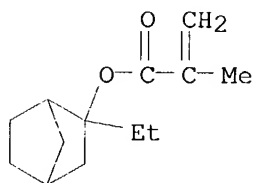
RN 470722-54-4 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-ethylbicyclo[2.2.1]hept-2-yl ester, polymer with 1-(ethenyloxy)-2-methylpropane (9CI) (CA INDEX NAME)

CM 1

CRN 330595-98-7

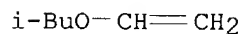
CMF C13 H20 O2



CM 2

CRN 109-53-5

CMF C6 H12 O



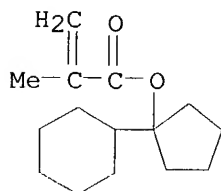
RN 470722-55-5 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1-cyclohexylcyclopentyl ester, polymer with 1-(ethenyloxy)-2-methylpropane (9CI) (CA INDEX NAME)

CM 1

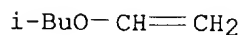
CRN 366808-98-2

CMF C15 H24 O2



CM 2

CRN 109-53-5  
CMF C6 H12 O

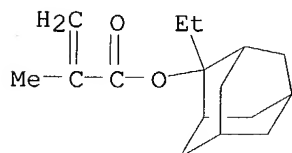


RN 470722-56-6 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, polymer with 1-(ethenyloxy)-2-methylpropane and 2-ethyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

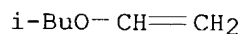
CM 1

CRN 209982-56-9  
CMF C16 H24 O2



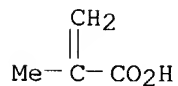
CM 2

CRN 109-53-5  
CMF C6 H12 O



CM 3

CRN 79-41-4  
CMF C4 H6 O2



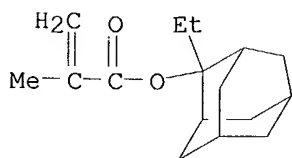
RN 470722-57-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester, polymer with 1-(ethenyloxy)-2-methylpropane and tetrahydro-2-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 209982-56-9

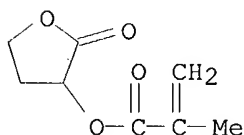
CMF C16 H24 O2



CM 2

CRN 195000-66-9

CMF C8 H10 O4



CM 3

CRN 109-53-5

CMF C6 H12 O

i-BuO-CH=CH2

L110 ANSWER 5 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2002:792710 HCAPLUS  
 DN 137:317922  
 TI Positive photoresist compositions offering sharp patterns  
 IN Sato, Kenichiro  
 PA Fuji Photo Film Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 85 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

|      | PATENT NO.        | KIND | DATE     | APPLICATION NO. | DATE     |
|------|-------------------|------|----------|-----------------|----------|
| PI   | JP 2002303984     | A2   | 20021018 | JP 2001-135245  | 20010502 |
| PRAI | JP 2001-22010     | A    | 20010130 |                 |          |
| OS   | MARPAT 137:317922 |      |          |                 |          |
| IT   | 398140-48-2P      |      |          |                 |          |

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (pos. photoresist compns. offering sharp patterns)

RN 398140-48-2 HCAPLUS

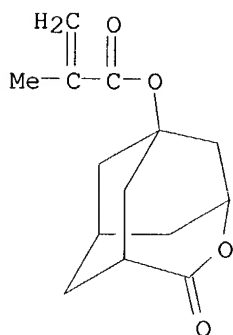
CN 2-Propenoic acid, 2-methyl-, 3-[[[(5,5-dimethyl-3-oxo-1-cyclohexen-1-yl)oxy]sulfonyl]propyl ester, polymer with 2-ethyltricyclo[3.3.1.1<sup>3,7</sup>]dec-

2-yl 2-methyl-2-propenoate, 5-oxo-4-oxatricyclo[4.3.1.1<sup>3,8</sup>]undec-1-yl  
 2-methyl-2-propenoate and tetrahydro-4,4-dimethyl-2-oxo-3-furanyl  
 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 348596-87-2

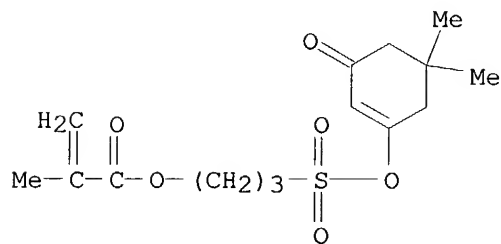
CMF C14 H18 O4



CM 2

CRN 289040-47-7

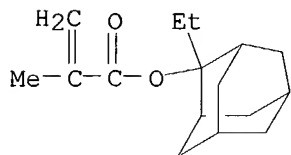
CMF C15 H22 O6 S



CM 3

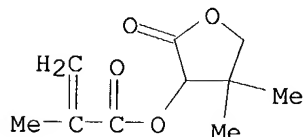
CRN 209982-56-9

CMF C16 H24 O2



CM 4

CRN 156938-13-5  
CMF C10 H14 O4



L110 ANSWER 6 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2002:673047 HCAPLUS  
DN 137:224108  
TI Storage-stable excimer laser-sensitive positive-working photosensitive compositions with reduced pattern variation on defocusing  
IN Kodama, Kunihiko; Sato, Kenichiro  
PA Fuji Photo Film Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 86 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
FAN.CNT 4

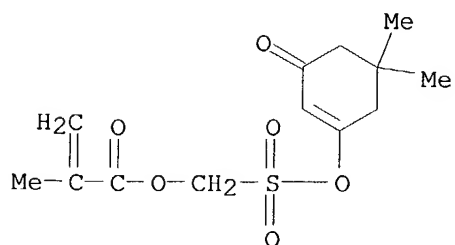
|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | JP 2002251012  | A2   | 20020906 | JP 2001-48784   | 20010223 |
|      | US 2003017415  | A1   | 20030123 | US 2002-79414   | 20020222 |
| PRAI | JP 2001-48602  | A    | 20010223 |                 |          |
|      | JP 2001-48783  | A    | 20010223 |                 |          |
|      | JP 2001-48784  | A    | 20010223 |                 |          |
|      | JP 2001-48880  | A    | 20010223 |                 |          |
|      | JP 2001-157366 | A    | 20010525 |                 |          |
|      | JP 2001-157367 | A    | 20010525 |                 |          |

IT **455521-72-9P**  
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)  
(chemical amplified storage-stable excimer laser-sensitive pos. **photoresists** with reduced pattern variation on defocusing)  
RN 455521-72-9 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, [[[5,5-dimethyl-3-oxo-1-cyclohexen-1-yl)oxylsulfonyl]methyl ester, polymer with 2-ethyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl 2-methyl-2-propenoate, 5-oxo-4-oxatricyclo[4.3.1.1<sup>3,8</sup>]undec-1-yl 2-methyl-2-propenoate and tetrahydro-4,4-dimethyl-2-oxo-3-furanyl 2-methyl-2-propenoate (PCI) (CA INDEX NAME)

CM 1

CRN 455521-71-8  
CMF C13 H18 O6 S

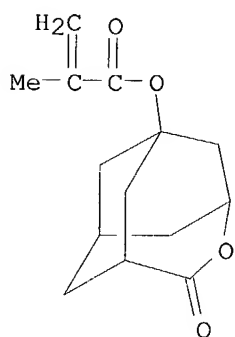




CM 2

CRN 348596-87-2

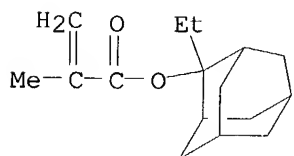
CMF C14 H18 O4



CM 3

CRN 209982-56-9

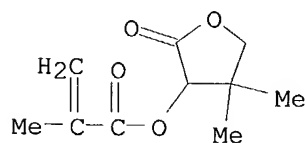
CMF C16 H24 O2



CM 4

CRN 156938-13-5

CMF C10 H14 O4



L110 ANSWER 7 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2002:464504 HCAPLUS

DN 137:54614

TI Far UV-sensitive positive-working photoresist composition containing specific acid-decomposing composition

IN Sato, Kenichiro

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 75 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | JP 2002174901  | A2   | 20020621 | JP 2000-371963  | 20001206 |
| PRAI | JP 2000-371963 |      | 20001206 |                 |          |
| IT   | 438221-30-8P   |      |          |                 |          |

RL: **SPN (Synthetic preparation)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)

(far UV-sensitive pos.-working **photoresist** composition)

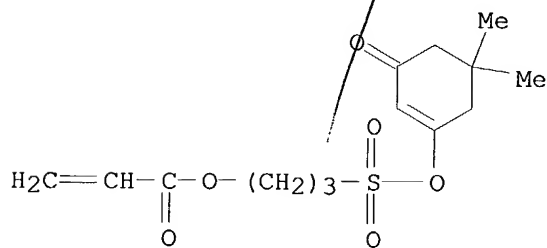
RN 438221-30-8 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylethyl ester, polymer with 3-[[[5,5-dimethyl-3-oxo-1-cyclohexen-1-yl)oxy]sulfonyl]propyl 2-propenoate, 2,5-furandione and hexahydro-2-oxo-3,5-methano-2H-cyclopenta[b]furan-6-yl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 398140-96-0

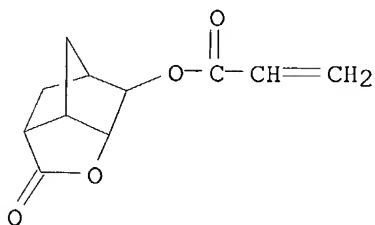
CMF C14 H20 O6 S



CM 2

CRN 242129-35-7

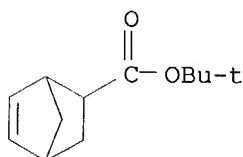
CMF C11 H12 O4



CM 3

CRN 154970-45-3

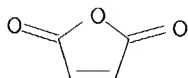
CMF C12 H18 O2



CM 4

CRN 108-31-6

CMF C4 H2 O3



L110 ANSWER 8 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2002:447173 HCAPLUS

DN 137:39320

TI Positively working photoresist composition for exposure to ultraviolet ray

IN Sato, Kenichiro

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 71 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | JP 2002169293  | A2   | 20020614 | JP 2000-370232  | 20001205 |
| PRAI | JP 2000-370232 |      | 20001205 |                 |          |
| IT   | 437610-19-0P   |      |          |                 |          |

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(pos. working photoresist composition for UV ray exposure for large defocus latitude and low roughness on side wall of contact hole)

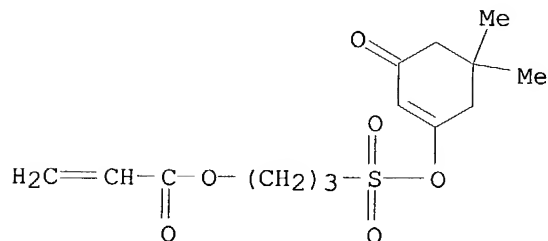
RN 437610-19-0 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylpropyl ester, polymer with 3-[[[(5,5-dimethyl-3-oxo-1-cyclohexen-1-yl)oxy]sulfonyl]propyl 2-propenoate, 2,5-furandione and 2-methylbicyclo[2.2.1]hept-2-yl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 398140-96-0

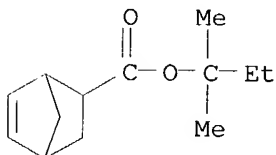
CMF C14 H20 O6 S



CM 2

CRN 398140-58-4

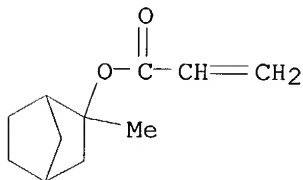
CMF C13 H20 O2



CM 3

CRN 328087-78-1

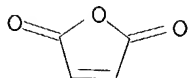
CMF C11 H16 O2



CM 4

CRN 108-31-6

CMF C4 H2 O3



L110 ANSWER 9 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2001:178377 HCAPLUS

DN 134:229705

TI Chemically amplified photoresist compositions and process for the formation of stable photoresist patterns

IN Takechi, Satoshi; Kotachi, Akiko; Nozaki, Koji; Yano, Ei; Watanabe, Keiji; Namiki, Takahisa; Igarashi, Miwa; Makino, Yoko; Takahashi, Makoto

PA Fujitsu Limited, Japan

SO U.S., 55 pp., Cont.-in-part of U.S. 6,013,416.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 3

|      | PATENT NO.            | KIND | DATE     | APPLICATION NO. | DATE     |
|------|-----------------------|------|----------|-----------------|----------|
| PI   | US 6200725            | B1   | 20010313 | US 1997-969368  | 19971128 |
|      | JP 09090637           | A2   | 19970404 | JP 1995-312722  | 19951130 |
|      | JP 3297272            | B2   | 20020702 |                 |          |
|      | JP 09073173           | A2   | 19970318 | JP 1996-50264   | 19960307 |
|      | US 6013416            | A    | 20000111 | US 1996-673739  | 19960627 |
|      | <del>US 5968713</del> | A    | 19991019 | US 1997-896833  | 19970718 |
|      | US 2001003640         | A1   | 20010614 | US 2000-739259  | 20001219 |
|      | US 6329125            | B2   | 20011211 |                 |          |
| PRAI | JP 1995-162287        | A    | 19950628 |                 |          |
|      | JP 1995-178717        | A    | 19950714 |                 |          |
|      | JP 1995-312722        | A    | 19951130 |                 |          |
|      | JP 1996-50264         | A    | 19960307 |                 |          |
|      | US 1996-673739        | A2   | 19960627 |                 |          |
|      | JP 1996-320105        | A    | 19961129 |                 |          |
|      | US 1997-969368        | A3   | 19971128 |                 |          |

IT 186585-97-7P 186586-04-9P

RL: PEP (Physical, engineering or chemical process); PRP (Properties);  
**SPN (Synthetic preparation)**; TEM (Technical or engineered material  
 use); **PREP (Preparation)**; PROC (Process); USES (Uses)

(preparation of alkali-insol. polymers and copolymers for chemical amplified  
**photoresist** composition)

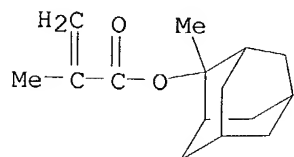
RN 186585-97-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester,  
 polymer with 1,3-dioxol-2-one (9CI) (CA INDEX NAME)

CM 1

CRN 177080-67-0

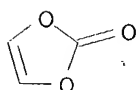
CMF C15 H22 O2



CM 2

CRN 872-36-6

CMF C3 H2 O3



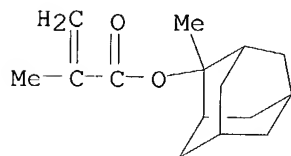
RN 186586-04-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1.3]dec-2-yl ester, polymer with ethenyl acetate (9CI) (CA INDEX NAME)

CM 1

CRN 177080-67-0

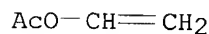
CMF C15 H22 O2



CM 2

CRN 108-05-4

CMF C4 H6 O2



RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L110 ANSWER 10 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2000:823000 HCAPLUS

DN 133:367848

TI Positive-working resist composition

IN Sato, Kenichiro; Kodama, Kunihiro; Aogo, Toshiaki

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 32 pp.

CODEN: JKXXAF  
DT Patent  
LA Japanese  
FAN.CNT 5

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | JP 2000321771  | A2   | 20001124 | JP 1999-127296  | 19990507 |
|      | US 6596458     | B1   | 20030722 | US 2000-563436  | 20000503 |
| PRAI | JP 1999-127296 | A    | 19990507 |                 |          |
|      | JP 1999-186607 | A    | 19990630 |                 |          |
|      | JP 1999-193601 | A    | 19990707 |                 |          |
|      | JP 1999-193602 | A    | 19990707 |                 |          |
|      | JP 1999-193603 | A    | 19990707 |                 |          |

IT 307976-34-7P 307976-36-9P

RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(pos. photoresist composition containing acrylic polymer and acid generator)

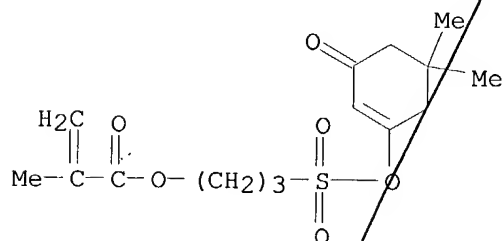
RN 307976-34-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-[[[5,5-dimethyl-3-oxo-1-cyclohexen-1-yl)oxy]sulfonyl]propyl ester, polymer with 2-ethyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl 2-methyl-2-propenoate and tetrahydro-2-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 289040-47-7

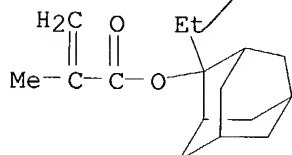
CMF C15 H22 O6 S



CM 2

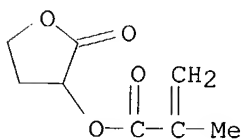
CRN 209982-56-9

CMF C16 H24 O2



CM 3

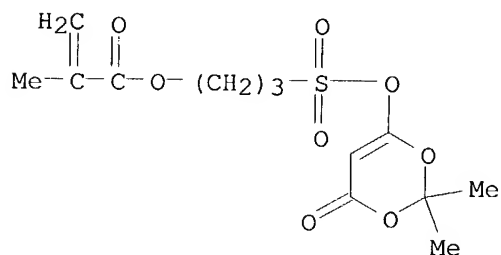
CRN 195000-66-9  
CMF C8 H10 O4



RN 307976-36-9 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, 3-[[2,2-dimethyl-4-oxo-4H-1,3-dioxin-6-yl]oxy]sulfonylpropyl ester, polymer with 2-ethyltricyclo[3.3.1.1.3,7]dec-2-yl 2-methyl-2-propenoate and tetrahydro-2-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

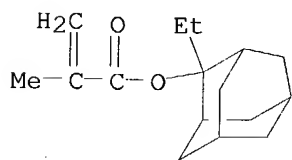
CM 1

CRN 307976-35-8  
CMF C13 H18 O8 S



CM 2

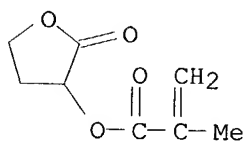
CRN 209982-56-9  
CMF C16 H24 O2



CM 3

CRN 195000-66-9  
CMF C8 H10 O4





L110 ANSWER 11 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1999:713527 HCAPLUS  
 DN 131:329897  
 TI Negative-working resist composition and resist pattern formation using same  
 IN Nozaki, Koji; Yano, Akira  
 PA Fujitsu Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 17 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

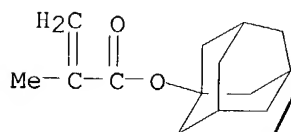
|      | PATENT NO.        | KIND | DATE     | APPLICATION NO.  | DATE     |
|------|-------------------|------|----------|------------------|----------|
| PI   | JP 11311860       | A2   | 19991109 | JP 1998-119385   | 19980428 |
|      | DE 19912047       | A1   | 19991125 | DE 1999-19912047 | 19990317 |
|      | US 6027856        | A    | 20000222 | US 1999-272400   | 19990319 |
|      | TW 422942         | B    | 20010221 | TW 1999-88104428 | 19990320 |
| PRAI | JP 1998-119385    | A    | 19980428 |                  |          |
| OS   | MARPAT 131:329897 |      |          |                  |          |

IT **249504-29-8P**  
 RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)  
 (neg.-working **photoresist** containing alkali-soluble resin, allyl alc. compound, and acid generator)

RN 249504-29-8 HCAPLUS  
 CN Benzoic acid, ethenyl ester, polymer with 1H-pyrrole-2,5-dione and tricyclo[3.3.1.1<sup>3,7</sup>]dec-1-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

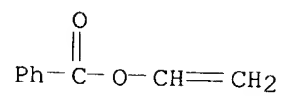
CM 1

CRN 16887-36-8  
 CMF C14 H20 O2



CM 2

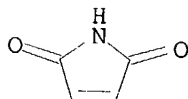
CRN 769-78-8  
 CMF C9 H8 O2



CM 3

CRN 541-59-3

CMF C4 H3 N O2



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